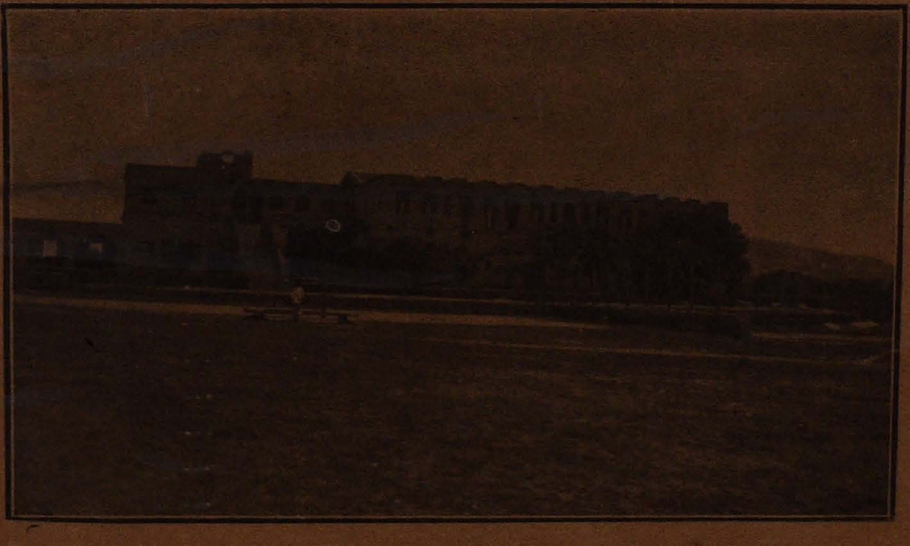
THE THEOSOPHICAL COLLEGE MAGAZINE



MADANAPALLE

MARCH 1931

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No.
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MADRAS

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THE

THEOSOPHICAL COLLEGE

MAGAZINE

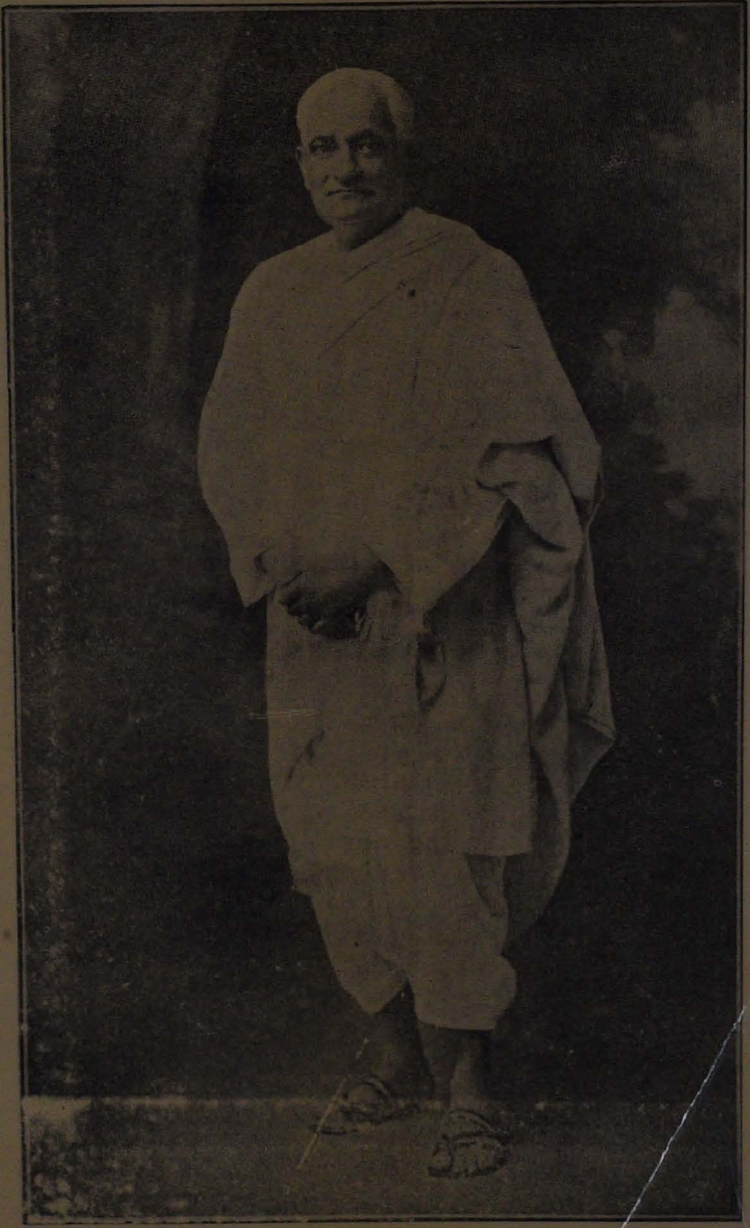
EDITED BY

H. SUNDER RAO, M.A.

OFFICE OF THE REGISTRAR OF BOOKS
No.
14 MAR 1931
MADRAS

We pursue Beauty but not unthriftily,
And Knowledge but not unhealthily.
Thucydides.

MADANAPALLE MARCH 1931.



PUNDIT MOTILAL NEHRU

தமிழ்நாடு ஆவணக் காப்பகம்
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EDITORIAL.

AT last! We seem to hear this stifled cry of relief, as our Magazine passes from hand to hand. We do not deny the justification for this "at last", for this issue has long been overdue. Time and Tide, they say, wait for no man, and in Madanapalle both have been at work rather furiously this year, and the work of our Magazine was put off for one reason or other, with the result that Time has played an ugly trick upon us by outstripping us in the race. We find ourselves now more than a year behind and a very large gap of time to cover in a single issue. How far we have succeeded in our task, it is for you, dear reader, to judge. For our part, we feel a certain legitimate pride in offering this record of our activities to you, and we hope you will accept this in the spirit in which it is offered.

* * *

We believe wholeheartedly in efforts of this kind. We know there are sceptics here and elsewhere who will question our faith. We know of at least one who whispered into our ears a warning that any effort in the direction of bringing out an issue of the College Magazine would be effort tragically wasted. Our answer to such people is very simple. Look at the educational institutions all over the world, and you will see that everywhere there are signs of more vigourous and abundant life among the students. We in Madanapalle, more particularly, stand for this new, abundant life which pulsates throughout the world today. And nothing like a Magazine, though there may be other things, to round off, unify and bring together the numerous and varied activities of college life. A college Magazine is a brief record and chronicle of the life and spirit of the place. It creates, in our opinion, a golden link between the past and the present, a beautiful link that carries forward the chain of noble traditions and associations that have clustered round the College. If our Magazine does a small portion of this noble work, we feel, our efforts are not wasted and however meagre, they will enrich the life of our College.

* * *

The present issue, we hope, continues to maintain the high standard of the previous numbers. We say this with a certain amount of hesitation, for Prof. K.T. Krishnaswami has set up very high standards of editorial duties and responsibilities. He worked hard for our Magazine and has left us a record of valuable achievement. A glance at the contents will convince the reader that the articles are of varied interest on subjects ranging from "Metaphysics to Marbles," as one would say. A new departure has been made in the matter of publishing contributions from old boys of the College and from those who are interested in our College. We are very grateful to those who have readily responded to our invitation to write. Mr. C. Jinarajadasa who is not a stranger to Madanapalle writes delightfully on "My Gurus in the West", an article which will be very

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greatly appreciated. Mr. Rajaram, one of our Old Boys contributes a short, but highly interesting article on "Love of Knowledge".

* * *

A college Magazine ought essentially to be the Students' affair and any help or guidance which the members of the staff are able to render should at best be regarded as a matter of secondary importance. It is on the enthusiasm of the students that the future of our magazine will depend, and we cannot but regret from this point of view that response from the students this time has been rather inadequate. We hope the next issue will be more intimately a students'concern than the present number. On their initiative, enthusiasm and capacities will depend the future of an effort of this kind. We publish in this issue about half a dozen articles from our boys. B. Muthuswamy Pillay (I class) writes lucidly on a rather difficult subject, and gives us a very interesting study of the changes that take ptace in the Universe and those that are likely to take place in the future. A. Hari Rao of the same class writes feelingly on the influence of Nature on us and his article will no doubt be very greatly appreciated. P.R. Chaudhry is the author of a really fine piece in verse, "Joy in Sorrow". R.T. Ranga Reddy's (IV Class) "Youth and Liberty" deserves special notice as expressing the aspirations and ideals of Youth, and L. Lakshminarasimham (II Class) writes a short and simple account of the Esssay in English Literature. Ramamurthy's (Ist Class) account of anEvening Walk is really a fine pieece of writing and reveals considerable powers of description. Sambasiva Reddy (IV Class) discusses the relation between Science and Religion in a short article. U Ananthayya (IV Class) writes a well though out and highly readable article on Psycho-analysis. Our aim is to encourage the students to express their thoughts on any subject that interests them in a readable manner, and these articles will show that there is enough talent in the place to provide contributions to the Magazine.

* * *

Members of the staff have, some very learned and interesting contributions to their credit. Mr. Ramakrishnan's "Energy and Annihilation of Matter" is an exposition of certain important physical laws, and Mr. B. Lakshman Rao writes lucidly on the scientific work of Sir C V Raman. Mr. P N. Chary is the author of a short and interesting article on Education in which he has emphasised on the need fo individual values in our system of educating the child. Mr. S. Rajagopalan writes exhaustively on "Sleep" and he has said a great many things on that very fascinating subject. "On the Art of Writing" by a member of the staff who prefers to remain anonymous may sound rather cynical; but it is, we hope, interesting in its own way.

* * *

Rerders will, we are sure, greatlo enjoy the photographs included in this number. They will no doubt add a touch of reality to the magazine and may help to bring many happy recollections of college life. to our Old Boys into whose hands our Magazine may fall. It is one of the rare

privileges of life to look back upon our past and we cannot think of a greater happiness for an educated man than to be reminded of the days he spent as a youth in a college. We suggest that an Old Boys' Association may be formed as a first step to keep the past students in touch wih the College. The pages of this Magazine are always at the disposal of our Old Boys.

* * *

The outstanding feature of this number is a new section in which we have published some short reviews of a few books newly added to the Library. This feature, will no doubt, enhance the literary value of the number and will probably help our students to get an idea of the contents of some of the more important volumes in our list of new additions to the Library. Of course the reviews may give a distinct class-room atmosphere to the magazine. No donbt they do; but we have yet to be-convinced that it is anything we ought to avoid. The teacher, as somebody cynically remarked. will always remain a teacher and we may add, a Lecturer will always lecture! Well, even these editorial notes, we feel have a distinct class-room flavour ; but we in this profession cannot help it, no more than the leopard its spots or the Ethiopian his skin ! We hope to publish, however, in the next issue short notes by the students on the new books that have interested them, and no doubt, it will be a welcome experiment. But then, as we said, it depends on the students to come forward and help us.

* * *

In conclusion we offer our good wishes to all those who will leave us at the end of this academic year. We earnestly hope that the outgoing students will always cherish the memory of their stay with us in the College and that they will continue to take an interest in its futnre. It is said the ideals of a college can best be known by the young men and women it sends out every year. We feel confident that our boys and girls will prove in every way worthy of their Alma Master and keep always fresh the ideals which the college has tried to place before them. More than ever, India needs today young men and women with idealism, courage and character to place our national life on surer foundations, and it is the privilege of youth today to take their due share in the noble task.

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MY GURUS IN THE WEST:

By C Jinarajadasa.

ONE of the happiest experiences of an educated man is the constant looking back on authors who have inspired him. Therefore the truly educated man is a lover of books, and surrounds himself with books. Each book is the voice of a guide and friend; and so to possess books is to be rich in friendship. I say "to possess books", not merely to have them on shelves. The distinction is obvious, and need not be expatiated upon.

There are certain authors to whome I turn constantly. Even if I do not pick out so very often one of their books from my shelves, their thoughts are somewhere at the back of my mind, especially as I try to create anything literary or artistic.

Foremost of these are the unknown authors of the Upanishads. In one way or another, every phase of philosophy is somewhere to be found in an Upanishad, not necessarily fully developed, but only in germ. And as all philosophies turn at last towards one goal, that of the Unity, anyone who has steeped himself in the Upanishads is reminded of them, as he listens to the latest speculations of the modern mind.

Next to the Upanishads, I think Dante influences me most. Fortunately for me, I can now read Dante in the original, and so sense an exquisiteness in art which no other poet possesses. There is in Homer, in the Greek, a wonderful gigantic quality, as if somehow one were consorting with an order of supermen. The rolling waves of his language, the stark reality in things which he presents, united to the indescribable Greek quality of looking at life "as it is", make Homer by far and away the greatest of the poets. But Dante is unique in another sphere. It is, that whatever is the thing or event, or human characteristic, which Dante describes, he makes it as it were a window through which to look at a whole host of cosmic happenings. He is archetypal—I know no other word to use for him. If he describes the growth of a plant, he makes you see the growth of the soul as well. He uses a language almost perfect for poetry, for Italian has a diamond-like clearness. And in addition, Italian has an artistic sweetness and sonority which, in the hands of a master like Dante, makes whatever he says so said, that it could not by any possibility be said in a better or truer or more beautiful way.

After Dante comes Richard Wagner. He is best known for his music-dramas, for in them he has made a unty of abstract music and the drama which no one ever before has attempted. Combine the dramas of Aeschylus with the lofty music of Beethoven, and you get something

of what Wagner dreamed of as art and life. If one could imagine Shakespeare's "Romeo and Juliet", or his "King Lear" raised to the nth in their emotional and artistic appeal, that is what one finds in one of Wagner's typical musical dramas like *Lohengrin* or *Tristan and Isolde*. As to his great Trilogy, *The Ring of the Niebelung*, which takes four successive evenings to perform, we see in it the dramatisation of a whole cosmos at work, with Gods and men, and with all the creatures of earth and sea, of fire and air.

Of this group of Dante and Wagner is Plato. And Plato affects me because of his great concept of Archetypes at work. So too is Plato the end, for when all is said and done, the clue to the mystery of life is the Archetype.

And lastly comes Ruskin, whose gospel of humanitarianism is the noblest gospel that I know. Ruskin to me think, true. He thinks true because he feels true. And he feels true, because he has realised that all art, all religion, all science and philosophy lead to one goal, which is to understand man, and to love and serve man. He brings all the powers of his intensely artistic nature to preach that gospel. In many ways, especially in Political Economy, we are still in darkness, because we have not yet cared to understand Ruskin.

Ruskin, Dante, Plato and Wagner—these are my Gurus of the west, and I say to each of them: "Tasmai Sri Gurave Namah!"

True Culture

The highest culture is to speak no ill,
The best reformer is the man whose eyes
Are quick to see all beauty and all worth;
And by his own discreet, well-ordered life,
Alone reproves the erring.
When thy gaze.
Turns in on thine own soul, be most severe.
But when it falls upon a fellow-man
Let kindliness control it; and refrain
From that belittling censure that springs forth
From common lips like weeds from marshy soil.

—*Ella Wheeler Wilcox.*

AN EVENING WALK

BY R. RAMAMURTHY (I CLASS)

IT was my custom every day to go on a walk in the evenings to refresh myself after the hard day's work. One beautiful evening I went on a long walk to one of the neighbouring hills. When I reached the foot of the hill, the sun was wellnigh down in the horizon and was shedding his beautiful parting rays over the glistening waters of the lake that seemed to encircle the hill. The hillside looked very beautiful, and as there was nobody in sight, it seemed as though I was alone in a vast and soundless universe. Nature was in all her glory and looked as though she were clad in a gorgeous robe of diverse colours. The evening rays of the sun were dancing over the rippless of the water, and the lake itself looked like a vast mirror in which I saw the reflection of the beautiful scene around me.

I stood there for a long time in silent rapture; but was soon seized by an irresistible desire to take a stroll up the hill. The cool breeze of the evening that softly blew over my face exhilarated me and put me in high spirits. There is no experience more e citing than climbing a steep hill over jutting rocks and slippery crags. You hold your life literally in your hands and every moment you feel that you are in danger of tripping over and plunging down to the bottom from a great height. One needs great presence of mind, and bodily vigour to perform this feat even on a small scale. I had almost reached the top of the hill when I began to feel tired and as the rest of the climb would tax all my remaining strength, I decided to repose myself on a projecting rock which I found near. The place afforded a snug shelter, being overarched by the thick foliage of a hoary tree and from there I could command a full prosepct of the whole scene below. The scene spread before me in a beautiful expanse, and I saw that the objects below seen from this height acquired a rare beauty which was not there when I had seen them below. In the words of the poet, "there was light that never was on land or sea".

The gentle ripples on the water seemed to have put on a rarer beauty and were reflecting the golden sunbeams.

Close by the rock there glided a stream of crystal water, making that soft delicious sound which is infinitely sweeter than any earthly music I know. In the large mysterious silence of the hillside, sounds acquire a significance and meaning that they cannot have in crowded towns and cities. Now and then the silence was broken by the voices of the birds, bright-plumed denizens of the hillside, as they flew across the region. This sweet music brought indescribably peaceful thoughts to my mind, and I felt as though I was living in an enchanted world. The twitter of the birds in their natural environment undisturbed by

man, has something in it that is wonderful, and it seems as though the birds speak the language of eternal joy and eternal peace.

It was springtime and the trees and plants along the hillside were clothed in garments of many hues and colours. The flower that is born "to blush unseen and waste its sweetness in the desert air" has a life of its own, a life which seems to link with it our own lives. No wonder the poet Wordsworth could say,

The meanest flower that blows can give me thoughts
That do often lie too deep for tears.

The whole place was full of the sweet odour of the forest flowers and this fragrance I breathed in had in it the rapture of a thousand memories-memories of happy childhood, of summer evenings spent in the fields, of vanished scenes and forgotten faces. It was at once stimulating and peaceful.

I reposed myself for half an hour in that delicious retreat, and as I felt stronger, and as the grand prospect around me seemed to have inspired a new hope in me, I was now much eager to push forward. I struck a well-beaten path and continued to climb up the hill. My way lay through overhanging boughs of forest trees that met each other in welcome arches. It was not long before the same weariness overtook me again. The path became more and more rugged and the ascent more and more difficult, as I plodded on. When I endeavoured to climb. my knees bent under me. Nevertheless summoning up all my strength I struggled onwards and it was a long time before I was able to reach the top of the hill.

Nothing can beat the strange beaut of that scene. It lives in my memory still and haunts my waking hours with a mystery which I am unable to describe The sun had already set and the brief twilight gave a weird outline to all the objects of nature. It was like a picture painted by a divine artist, with a wonderful blend of fantastic shapes and shadows, an intricate pattern of the unfathomable mystery and beauty of life. It was a great English poet Blake who said that this mystery and beauty of life can be perceived even by a very trivial thing. He has very beautifully put the idea as follows:

To see a world in a grain of sand
And Heaven in a wild flower,
Hold infinity in the palm of your hand
And eternity in an hour.

Something of that attitude to life is sure to be awakened even in the hardest sinner, if he is alone in darkness on the top of a hill. Yet it was not darkness invisible; for the moon was just peeping coyly through the clouds and was beginning to make all the earth a wonder of romance. The moonlight has that wonderful power .to turn even the most ugly object into something rich and strange. That is why the Taj seen in

moonlight is the most beautiful object in nature. Under the play of the moonbeams the Taj becomes an abode of unearthly beauty and mystery and romance' and the divine in man responds unfailingly to this magic of the moonlight.

On the Hill there is a small shrine which stands on the brink of a small pool, cut out of the rocks. It is said that many years ago a Rishi who wanted to avoid the bustle of the towns had retred to the spot and was living in silent meditation on the berries and other fruits which the forest yield abundantly.

I rested in the shrine for a short while and with the haunting beauty of the scene keeping company with me, I came down the hill. The experience of that evening will ever remain in my memory.

At the Taj Mahal

A breath, a shadow, chills the marble dome,
Changing the rose-blush to sepulchral clay;
Quenched are heaven's seas, that broke in golden foam,
And frozen, ere it fell, their airy spray.
The colours on the water fade away;
The long, bright mirrors, flashing blue and gold,
Are cumbered with the ruins of the day;
And stars, that give no light, dawn dim and cold.
Come, O Beloved, through the warm dusk air,
While the dark cypress whispers to the rose,
And the young moon a-down thy glimmering stair
Her shadow, like a shaft of jasper, throws:
And you, vain human shadows, hush your tread,
And leave her garden to the deathless dead.

—Geoffrey Cookson.

COLLEGE OFFICE AND DORMITORIES

THE TWIN HILLS. THE BASINI & MADINI KONDAS

"ON THE ART OF WRITING"

BY A TEACHER OF ENGLISH COMPOSITION

WHO said that the Indian student has no sense of humour? This is not an essay on Humour, and I would like Humour not to be defined at all. Certainly it is a singularly elusive thing, and I am not sure there is anyone alive who can explain humour. But if one makes any attempt, I would rather he attempted to define it, as Dean Inge once did, as a sense of incongruous emotions. Leaving definitions aside, the sense of humour is a divine gift; it saves us from ourselves as much as it saves us from others. Certainly Humour is a protection against ourselves, in this not too consistent world of ours, and we need that protection against ourselves just as much as, if not more than, we need it against others.

Somebody once said that there is an art of putting things, both in conversation and in writing. If we break any of the rules of this art, either consciously or unconsciously, it lands us in many a quandry from which escape is not very easy. It reminds me of the doctor who, combining in his evening's round a visit to two of his patients, said that he was trying to kill two birds with one stone. If the good doctor had premeditated his remark, he would probably have expressed himself differently. A comma, a very trivial thing in itself, can bring ruin into our writing very often, as in the case of the undoing of an advertisement in an Indian paper. "A Ford car for sale by a gentleman about to leave India in fine runing condition, completely overhauled." A comma too much very often brings utter disaster to us. Listen to this incomparable bit from a famous politician as reported in one of our papers. "Sir—said, 'I shall have no opinions, to distinguish me from my fellow Liberals' ", and we all know that a politician without opinions is either a fool or a knave or both. I have left far behind the subject with which I started the article. The Indian student is an unconscious humourist. His fertile imagination makes him that, and this fertility of imagination is essentially an Oriental gift. The English language to him is an unexplored region with its own horrors and pitfalls, and when he is not under the stern discipline of the wholesome rules of grammar, idiom and a true significance of words and phrases and other necessary evils, he handles the instrument of the language with a certain princely recklessness which beats Mrs. Malaprop's "nice derangement of epitaphs".

Mostly the mistakes committed by Indian students relate to the misuse of that elusive thing called English idiom. But he also creates wonderful effects of language by a florid imagination which is both his strength and weakness. Unnecessary ornament of language, a fondness

for quotation, ignorance of idiom and a true significance of words and a rich and fertile imagery-these are a few sources of his blunders. The result is highly pleasing, though sometimes exasperating. But it also results in a rich, unconscious humour which alone is real. Above all it helps to lighten the monotony of the teacher's life.

Mrs. Gamp in Dickens invented with some misty recollections of the New Testament floating in her mind, the admirable aphorism that "Rich folks may ride on camels, but it ain't so easy for 'em to see out of a needle's eye". A young friend of mine, soliloquising in his essay on the injustices of the world, tries to remember Portia's famous lines on Mercy, and this is how he does it. "How true it is, as the great immortal bard has thrust into the mouth of that divine exquisite lady, Portia, of sweet and blessed memory, that the drops of mercy fall one by one from the Throne of the Almighty like rain in monsoon and replenish this dull, barren world". I would like to know if this is not infinitely better than Shakespeare's rather stale stuff, and I am particularly charmed by the simile of the monsoon rain.

In fact an overweening fondness for quotations lands the unwary youngster in our schools and colleges into worse blunders than the above. He must, above all things, and at all costs, have his quotation, even if he does not know the author. Well, in that case he invents one and that serves as well. A bright little author of an essay on "Games" without any conceivable reason quotes Milton's lines, "The mind is its own place", and coolly ascribes them to Jesus Christ, the author of the Bible! A senior student criticising the character of Satan in Milton speaks of him (not of Milton, but of Satan) as "an angel in sheep's clothing". Our overworked students, whose wretched lives for a week before each examination are spent in the hasty acquisition of much ill-assorted and indigested knowledge, frequently become victims of these confusions in answering their papers in the Examination. It reminds me of an answer which an undergraduate once gave to the question "What is Faith"? The answer ought to have been hailed as an epoch-making contribution to religious psychology. It was this. "Faith is the faculty by which we are enabled to believe that which we know is not true". I remember a clever boy quoting the famous lines from Henry VIII, the lines put into the mouth (or thrust!) of Wolsey. Note the effect of the vivid amendation in the lines. "Had I but served my God as I have served my king, He would not in mine age have left me *naked* to mine enemies".

It is the peculiar fortune (or misfortune) of teachers and examiners sometimes "to see themselves as others see them". This hapens in many curious ways. I know Psycho-analysis has explained many strange things relating to the unconscious. I did not believe in the claims of the psycho-analysts till I casually read in an answer paper the lines from "King Lear" quoted thus:

"As flies to the wanton boys are we to the examiners:

They kill us for their sport."

These lines, as amended by our unconscious genius ought to be quoted as a motto in every answer paper.

In our schools and colleges, petitions and appeals to those in authority are common; they have been customary and they persevere with the same obstinacy as any of our social customs and traditions. It is in these petitions that the Indian student reveals the genius that is in him for poetic epression. Not long ago in the mofussil colleges it was the custom to address the teacher as "respected sir", the word "respected" as applied to the teacher being, as every teacher ought to know (to put it mildly) a terminologicai inexactitude. A few weeks ago I received a letter from a boy addressed as 'Venerable Sir'. I was proud to know that I was atleast that. But things were better in the good old days. Probably more then one teacher or Headmaster has received a letter beginning "Holy father" and I am told this custom obtains in Mission institutions. I remember a friend of mine telling me a story about a letter received by the Head of the Mule Transport Corps at Simla from an educated subordinate. It commenced with "Almighty Ass-Master". It is usual for a school boy to commence his letter to a superior with "My respected sir, my saviour, and my what-not", particularly if it is a petition for a free scholarship. In a similar petition to the Principal of a college I was delighted to read "As I am very poor and unpecunious, I find it extremely difficult to make both ends of my body meet" It would have been a splendid gymanstic feat, if he could do that! The other day the drudgery of correcting Composition exercises was considerably enlivened by this delicious gem, "David's aunt, who was a female woman of a tall, stiff, and uncomely stature and physical appearance beat the donkey-boy with great gusto and enthusiasm and thunder:" I like Miss Betsey Trotwood for her thunder if for nothing else and I would have enjoyed her beating the donkey-boy with that great 'gusto' which always characterised her actions, and I particularly like the description of Miss Betsey as "a female woman" which is a great comfort to know. A senior Undergraduate writing an essay on "Greek Civilisation" commenced with a fine piece of auto-biography. "Much water has run into the Bahuda* since I last presented my thesis to our most becile Lecturer in Composition, and the oppression of fever having just left me, I presume to offer this humble essay on the "Greek civilisation". I challenge the greatest comic writer in Literature to produce any thing like this. At any rate I was supremely happy that day, for my friend's unsolicited testimony to my 'becility' calculated to remove from my mind any lurking suspicion as to my imbecility!

Undue modesty is not in the nature of our students' compositions. Sometimes they will go on to detail their innumerable virtues and

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*A wonderful little stream in the neighbourhood which usually runs dry with sand, but occasionally flows in spasmodic streamlets.

accomplishments, not omitting to mention how "they burnt the lamp in midnight oil to prepare for their lessons" which reveals of course a prodigious industry and a fine sense of values. But our boys excel themselves in applications for jobs. A grave, stalwart youth who was anxious to join the Police Department once brought me a really wonderful specimen of English composition, in the course of which he mentioned the fact that "having replenished the earth with a numerous family for the service of the benign government, he hoped and prayed that His Honour would appoint him to the job". As I had too great a respect for his capacity I did not venture to tamper with his Mss. By the bye, it is an irritating superstition with our educated person not to refer to his "wife" The much-abused word 'family' covers many sins of omission and commission, and is the source of much unconscious humour, for example, in the leave letter of a clerk in a government office there occurs "As my family has gone to my native place for delivery", etc. The question would seem to be unanswerable! Such mistakes are mainly due to curious misunderstandings of English words. A young student in a High school in an essay once referred to an English baker as an "English Loafer", a description of our rulers which will not be quite appreciated.

Expressions regarding love, etc., afford a fruitful source of humour in class compositions. Here is an exquisite gem, "David was so mad with Dora, that he at once fell into love of her". I still pity David Copperfield for falling in love with a lady who could send him into that indescribable fit of madness! Or listen to this "Barkis was willing no doubt, because of his great passion for the apples on Peggotty's cheeks" Readers of Dickens will no doubt pity the author for his precarious simile of the apples which could allow of such an interpretation by our youngster.

Spelling mistakes, no doubt, afford another source of humour. In an account of an earthquake, a boy wrote this beautiful and extremely sensible stuff; "As a result of many quacks on earth, many people lose their lives", which is perfectly true of a great many doctors in modern times! I remember once the consternation that was caused in a mofussil Post Office when a telegram was handed at the counter. It ran thus: "Heart-rents and agonies at grandmother's demise. Eat 25 Brahmins". The consternation subsided only after the meaning was later explained by a welldressed youth. The word ought to have been "feed", but I forget whether the torn and mutilated heart was flashed across the wires!

When like Mrs. Leo Hunter in Pickwick Papers, our student "drops into poetry" his achievement will be really unique. His main endeavour is to find a rhyme and forget reason. Lately in a collection of MSS for the College magazine, I found this rare tit-bit on Love which is by the way a fertile topic for our young aspirants for the Muse's Crown.

Oh, Love, how sweet are you and how good,
As sweet and delicious as for a hungry man his food,

My love knows no bounds
My desires are like hounds
That run after the deer
So are you to me dear.........

....

Many such refreshing and delicious examples are perpetrated by our young poets, and unfortunately their knowledge of English idiom and style is not on a par with their imagination! A very precious gem 'of purest ray serene' is the following. On the eve of a teacher's departure to England for higher studies, many poetic efforts were submitted to me for (I shudder at the word) correction. One characteristic effort ended like this:

Across the dark blue ocean thou sweepest
Like a meteor athwart the wondrous sky
Like a divine radiance thou mountest fame so high!

Any thing more foreign to the habits of my colleague it would be difficult to concieve, and certainly I have not so far heard of his attempting to swim the English Channel, but our poet wanted a rhyme and a poem!

HUMOURS OF THE CLASS ROOM.

A line in Geometry is what you draw and dont's see.

* * *

Chemistry Professor: "The Gas in this cylinder is a deadly poison, What steps would you take if any of it escaped?"
Student: "Long ones".

* * *

Lady Teacher: "Sita, if I said 'I am beautiful', what tense would it be?"
Sita: "Past".

* * *

A circle is a round straight line with a hole in the middle.

* * *

Shakespeare lived at Windsor with his merry wives.

* * *

The Lecturer entered the classroom one morning in an unpleasant frame of mind.
"How many boys are in the classroom today?"
Answer in chorus: "Thirty"
"How many idiots?"
"Thirty-one".

* * *

The Science teacher put a question to the pupil which he could not answer.
A boy beside the pupil whispered to him: "The teacher is an ass".
The teacher observing said: "Don't tell him. He ought to know it".

THE UNIVERSE

BY B MUTHUSWAMY PILLAI. (I CLASS)

RECENTLY the great Astronomer, Sir James Jeans peeped into an infinitely remote future and prophesied that at some time to come (when it will be, no one can say) an ice age of universal death will overtake all life on earth, and all traces of man, nay all life, will perish. It will no doubt interest the reader to know how this rather dismal future awaits the human race. To know this it is necessary that one should have some idea of the Universe, its origin, its growth, the place of our earth in it and such other things.

The Universe is made up of matter and motion. By matter is meant all the stuff that occupies space, manifest in the three primary states; the solid, the liquid and the gaseous. Matter in gaseous state subsists in two forms-the form in which it is experienced by our senses, commonly known as the gaseous state, and the form in which it cannot be experienced by our senses, known as the ultra-gaseous state. Matter is also said to exist in another highly refined state called the Ether, which pervades the whole Universe. Matter is composed of very tiny molecules and atoms. The structure of a molecule is estimated by eminent scientists to be so small that an egg of a mammal which is about 1/150 of an inch in diameter is said to contain so many molecules that if one were lost every second, they might not all be exhausted until after five thousand six hundred years. But this is only approximate; and the molecules themselves are composed of many atoms which are further divisible, so that the ultimate conception of matter baffles human understanding.

These ultimate particles of matter have in them two kinds of indestructible powers, of opposite nature, called "force" and "energy". The affinity of atoms to form molecules, the cohesion of molecules to from masses and the gravitation of visible masses of matter (like that of the earth), all these go to form what is termed as "Force". Energy is of two different types called the passive or the potential, and the active or the Kinetic. As already said, energy is also a power innate in matter like force, but it acts in a different way. Force unites and and energy separates the particles; force will gravitate all the atoms of matter to a common centre; energy will drive asunder all the atoms of matter. Force is inherent in matter and it cannot be separated from it; whereas energy passes from atom to atom, through the etheral medium.

Matter has both force and energy and consequently a perpetual conflict between its composite particles ensues, resulting in a constant motion of such particles. In this motion the separating energy manifests itself to a certain extent as heat and light and passes into the ether.

As motion is eternal there is a ceaseless distribution and redistribution of matter throughout space.

All matter was at first nebulous or cloudlike; it was in the finest possible form. Then due to constant motion, atoms were formed; atoms gathered into molecules and molecules became big masses; and these from their gravitational force became such huge bodies as the Sun of the Solar System. Our Solar System is one of the several such systems that go to make the Universe. The Passive or the potential energy in the atoms, which compose these Suns became active during the process of combinations in molar and molecular forms. The Molar gave to the mass a motion of rotation on its own axis in an orbit (such as that of the planets round the sun). The molecular energy gave a backwards and forwards motion and was converted into the radiant energy of heat and light, making the mass self-luminous.

Our Sun with all its planets and other dependants was at one time such a large luminous body (as it still is) going round and round. As its rotation quickened with the drawing in of more and more particles, the molar energy at its bulging equator acted more powerfully than the force of cohesion and the result was the detachment of portions of masses from the huge body. These portions that came out are the planets and they had all the properties of this burning parent. In this primitive state they were molten and were shining by their own light. But gradually this energy passed away and is still passing away in the form of heat and light to the vast etheral ocean in which they are swimming,

So our Earth which was once upon a time as hot and bright as the Sun, gradually cooled down, and even now is continually losing its energy. Its energy is still being dissipated, and as more and more of it is given off it will grow cooler and cooler. So there must come a time when it will be so cool that water will freeze, and when Sir Jeans' prophecy will come true.

We have seen that the Universe has developed from a nebulous state. It is the law of nature that it should happen so. From the finer thing the grosser thing develops. From the seed the tree comes up; it lives, bears fruit and perishes, leaving only the seed; and again the seed becomes a tree and the cycle is repeated. There is no end to this creative process. If the seed can be taken as the cause, we have its effect in the form of the tree, and the effect vanishes into the cause. We have the great oceans from the five vapours and they disappear into vapour. The sand comes from the mountain and the mountain is formed out of sand. Similar is the process that is at work throughout the Universe. The Universe itself has come from the nebulous state and will fall back into that state and then again it will be reborn, grow and perish again.

This birth, growth and death or *Srishti*, *Sthithi* and *Laya*, according to the Hindu conception of the Universe, runs in a regulated process

which is perfection itself. Certainly, the more we think of the Universe and its wonders, the more will be our faith strengthened in the existence of a Supreme Intelligence that governs the world. We must remember that we inhabit the tiniest fragment of the Universe, and though we presume to claim kinship with the divine, we are no more than "such stuff as dreams are made on". It does not mean therefore we are negligible, for in the Divine economy that governs and regulates this Universe, even the tiniest speck of dust has its own appointed sphere and its peculiar destiny. I close this article with these lines from "Hamlet" familiar to my readers, lines in which the great poet has expressed the wonder of human life and destiny in a universe of such strange and inconceivable beauties:

"What a piece of work is man! How noble in reason! how infiuite in faculties! in form, and moving, how express and admirable! in action, how like an angell in apprehension, how like a god!"

How soon all worldly wrongs would be repaired
I think how I should view the earth and skies and sea......

After thy healing, with such different eyes.

O world as God made it! All is beauty:

And knowing this is love, and love is duty.

—*Robert Browning.*

INDIVIDUALITY AND EDUCATION

BY P. N CHARY.

IN the plant world it would be impossible to find two leaves, two blades of grass or two plants absolutely alike. It is the same among human beings also. There are giants and dwarfs, black and white, brilliant and stupid, good and bad, and other such extremes. While these differences are obvious there are so many variations which are not so apparent and hence thought not to exist. Some persons burst forth into song with the most meagre training, while others even after the most strenuous training could never carry a tune or discover discord; some are ready spellers while many others are hopeless; some people mount up the platform and charm the audience with their eloquence, while others get stage-fright. We can easily multiply examples.

Teachers easily recognise the fact of differences in physical structure among pupils, and regard such differences as natural; but in the matter of mental qualities it is assumed that all are alike or would be if educated alike. Starting with the assumption that intellectually all men are created alike, they would account for intellectual differences among children by differences in diligence, willingness to work, application, etc. The truth, however, is different, and the failure to recognise the truth has rendered education futile.

If a systematic study were made by a teacher of the individual differences of physical, intellectual, emotional and moral qualities of the members of a given class, the results would frequently astonish. Some people are ear-minded, some eye-minded and some motor-minded. Capacity for memorising varies considerably among pupils. Ignoring this many teachers are in the habit of assigning the same work to the entire class and expect uniform results. As a matter of fact mental differences are far more pronounced than any physical characteristics. "Even at birth men are physiologically diverse. However far we look back into the mists of antiquity there are found men who toil for a bare living, and men who to increase their own enjoyment of life cause others to toil. Even if a law were to place all men in the same condition, it would be immediately broken, seeing that a law could never be stronger than nature; and society would be disorganised once more owing to the different dispositions received by men at birth. Circumspection, perseverence, prudence, temperance, adaptability and alertness of mind are not gifts which nature has bestowed on all men and he who is born with them will know how to make himself obeyed" (Mosso in "Fatigue").

Thus the fact is established that among children in the same class there exists wide differences not only in physical characteristics and conditions, but in the make-up of their minds also. Side by side sit

children coming from families of different social conditions, with varying advantages of physical comfort, children with varying aptitudes and ambitions. To treat them alike is to misunderstand child nature. The blighting curse of education is uniformity. In this the individuality of the child is completely missed and considerable wastage results. Any education that has in mind the non-existent average child must be considered as having missed its mark. In the class room very often it is the backward children that receive greater attention to the neglect of the brighter children who for want of proper care and necessary stimulus grow restive and dissatisfied. Again the child is made to fit a preconcieved educational system instead of the system being modified to fit the needs of the child. It is only when the fact of child nature is well understood that such anamolies will disappear.

Fortunately the 20th century has witnessed great interest being evinced in child study. Whereas formerly it was thought that to be a good teacher all that was needed was a thorough mastery of the subjects included in the curriculum, now the emphasis is on the knowledge of the child nature. Child study circles are everywhere formed; experimental schools based on the knowledge thus gained are started here and there; even large schools are not uninfluenced by the new movement. All this, however, has one feature in common, and that is to emphasise the individuality of the child. Individuality should be the aim of education, says Prof. Nunn.

"There is no virtue in educational system unless systems meet the needs of the individual. It is not the ideal man or the average man who is to be trained; it is the particular man as the forces of heredity have made him. His own qualities determine his needs. A child is better unborn than untaught. A child however educated is still untaught if by his teaching we have not emphasised his individual character; if we have not strengthened his will and its guide and guardian, the mind. The best school is that which exists for individual students." (President Daivd Starr Jordan) Or again listen to Berbank, the botanical wizard, "Right here let me lay special stress upon the absurdity, not to call it by a harsher term, of running children through the same mill in a lot, with absolutely no real difference to their individulity. No two children are alike. You cannot expect them to develop alike. They are different in temperament, in tastes, in dispositions, in capabilities, and yet we take them in the precious early age when they ought to be living a life of preparation near to the heart of nature and we stuff them, cram them, and overwork them until their poor little brains are crowded up to and beyond the danger-line. Can any one by any possible cultivation and selection and crossing compel figs to grow on thistles or apples on a banana tree?".

Joy in Sorrow

UNDER a passing cloud a silvery bright star twinkles,
A twinkle that gives radiant light to my soul;
In the world of sorrow that clouds my thoughts,
She brightened a glimpse of Hope.

The glittering moonbeam shivers under the trailing cloud,
And peeps anon into the smiling world below,
So my thoughts oppressed by Life's unmeaning burden,
Were wrought to music by her holy light.

I hear the murmur of the soft breeze
Sporting with leaves and flowers.
And I feel my heart filled with peace and joy,
As on my sleepless couch I lie and dream
The unquiet dreams of hopeless sorrow.
So lay my soul to rest, as dissolved in ecstasy,
A lonely pilgrim on earth's tumultous path,
I heard the sweet melody of Life's myriad lutes.

—P. R. Chaudhry.

"Our sweetest songs are those
That tell of saddest thought"

—P. B. Shelley.

Prof. C. V. RAMAN and the RAMAN EFFECT

BY B. LAKSHMAN RAO.

WHEN white light was passed by Professor Tyndall through a medium of atmospheric air in which very small particles of dust were suspended, he found that light was reflected or scattered by the particles and the beam of light was made visible by the floating particles. This phenomenon is known as the Tyndall Effect. Lord Rayleigh explained the colour of the sky on this basis. The light that reaches us from the open sky is that part of the light of the sun that has been reflected or scattered by the fine particles of matter, either the dust particles or the molecules (Molecules are the smallest particles of matter capable of having independent existence and possessing the properties of the substance) of the atmospheric gases themselves. The light that reaches us from the open sky after scattering is merely the residium of the solar light which has survived after transmission through a certain thickness of air, as well as the scattering action of the particles. But for this, the sun would be unbearable to be seen and the sky would appear perfectly black. Now, white light is composed of seven different colours of the spectrum and each colour has a certain definite wave-length with which it travels. Blue light is scattered very much more than the red light and normally when white light is travelling through a medium containing very fine particles in suspension, the scattered light will have a blue tint. As the size of the particles increases, the tint becomes reddish and when the size is relatively large, they will affect all wave-lengths of light in practically the same degree and the scattered light will be white. Professor Tyndall has produced artificial skies in a most elegant manner. Also the setting sun which appears redder as it approaches the horizon has been produced on the screen in a laboratory by passing a beam of white light through a dilute solution of sodium thio-sulphate-the 'hypo" of the photographer— in which a little dilute hydrochloric acid has been added. The white circular spot on the screen gradually changes its colour to orange and to red and finally is obscured. This is the most remarkable approximation to a natural phenomenon.

While making an extensive study of the scattering of light by the molecules of distilled water, Raman and Seshigiri Rao in 1921 made the observation that the depolarisation (or the destruction of the "onesided" nature of light undulations) was increased markedly if a violet coloured filter was placed in the path of the beam of white light. The same behaviour was observed in the case of other liquids and the colours of the light scattered from different liquids did not match perfectly. In 1923 Ramanathan, one of Raman's associates, came to the conclusion that the observed effect was not due to the true dependence of the depolarisation upon the wave length but rather to a trace of fluoresence (or

self-luminosity) which was retained even after the greatest purification of the scattering liquid. This so-called 'week fluorescence" was investigated ever since 1923 without yielding any remarkable results.

Early in 1928, Professor A. Compton of the University of Chicago observed that when X-rays of wave length l are scattered by materials of low density, the scattered rays contained besides the l, a slightly higher wave length $l \pm l_1$ It was further observed by Compton that the change in the wave length l_1 is independent of the scattering material but depended on the angle of scattering. Soon after in 1928, Raman conceived the idea that this "week fluorescence" might be "some kind of optical analogue to the Compton Effect." The following experiment was performed by Raman and K. S. Krishnan A beam of sun light was focussed on a pure dust-free liquid contained in a large glass bulb. In the path of the incident light was placed a blue-violet colour filter which absorbed all lights of wave-length longer than a certain value. The light scattered was observed through a yellow-green filter. Both filters were placed in the path of the incident light, and no light entered the liquid as the filters acted in a complementary fashion, mutually absorbing the respective lights and no scattering was observed. With the arrangement mentioned above the path of the light through the liquid could be seen plainly through the yellow-green filter. The same phenomenon was observed with eighty different highly purified liquids, vapours and gases. This indicated that they were dealing not with fluorescence but with a universal scattering phenomenon.

This conclusion was verified by spectroscopic observation by Raman and Krishnan in February and March of 1928. The light from a 3000 candle power quartz mercury arc was focussed on the scattering liquid (highly purified by repeated distillation in vacuo) contained in a clear non-fluorescent bulb by means of a big glass condensing lense. The scattered light then entered through a quartz spectroscope with photographic arrangement. By photographing the spectra, it was found that the scattered light contained a number of faint lines, not occuring in the incident light. The new lines by comparison were generally of longer wave length and the differences between the frequency of a mercury line which produced the new lines and the new lines which accompanied it in the scattered radiation were found to be the same for all mercury lines. These frequency differences were quite characteristic of the scattering liquid, which proved that the phenomenon was fundamentally diffrent from the supposed fluorescence.

In order to explain the mechanism of the formation of new lines, Raman and Krishnan assumed that the new spectral lines had their origin in a scattering process by which a transfer of energy takes place between an impinging and colliding particle of light (light is considered to be a stream of particles) or the "quantum" and the scattering molecule. This hypothesis was tested by comparing the frequency differences between the scattering liquid Benzol with the known frequencies in the

absorption spectrum of Benzol. The arrangement between the computed and the observed infra-red wave lengths was evident. A little later G. Landsberg and L. Madelstam of Mascow and Raman and Krishnan of Calcutta working independently found the modified lines in the lights scattered by a quartz crystal and noted that the frequency differences agreed with the frequencies in the infra-red absorption spectrum of quartz.

This discovery of modified scattering was soon verified by scientists all over the world. P. Pringshein of Germany gave a very comprehensive discussion of this new phenomenon and named it the "RAMAN EFFECT".

This phenomenon was predicted by several theoritical Physicists. In 1923, A. Smekal, from considerations based on the concept of light particles or "quanta", showed that when light of frequency V is scattered by a gas, the scattered light must contain not only light of frequency V but also frequencies $V \pm V_1$ where V_1 is one of the certain frequencies in the spectrum of the scattering gas. He concluded that a light particle or quantum impinging on an atom (Atoms are smaller than molecules.) may transfer part of its energy and hence a diminished frequency. If the atom already is in an excited condition, its excess energy may be transferred to the colliding light quantum, the frequency of which is thereby increased. In 1924, H. A. Eramers and W. Heisenburg deduced the existence of modified scattering from the dispersion theory developed by Kramers on the basis of Bohr's Correspondence principle Shortly after, the existence of the effect was also shown to follow from the Matric Mechanics and in 1926, E. Schroedinger predicted from the still more recent Wave Mechanics and concluded that the frequency V_1 must correspond to a 'forbidden line', or a line which is emitted by an atom only under exceptional circumstances.

Several unsuccessful attempts were made by investigators searching for the effect. Experimental verification was made by Raman, who was in no way guided by the theoretical predictions mentioned above.

The Raman lines are very faint and extremely difficult to photograph. Raman and Krishnan generally used an exposure time between ten and forty hours, while Landsburg and Mandelstam used exposure times for nearly hundred hours. Ramdas, an associate of Raman, had to expose for a hundred and eighty four hours in order to obtain the Raman lines with ether vapour. The technique has since been improved so as to reduce the time exposure.

The remarkable discovery of the Raman Effect has not only furnished a new support to the Corpuscular theory of light, which assumes light as a stream of particles, but has opened up new fields of research in the borderland of Physics and Chemistry. Raman has

bridged the little gulf that existed between the two sciences. He has provided a convenient physical method of investigating the molecular spectra—a subject of fundamental importance in Chemistry. The structure of the Benzene ring which has been a standing enigma is being elucidated at Calcutta from this new view point. The Raman effect in a very simple manner distinguishes between the different kinds of chemical forces that bring about chemical combination and furnishes evidence of changes in the melecular aggregations. The Raman Spectrum affords us a better means than the X-ray spectrum, of understanding the relative strengths of the forces that bind the atoms of the substance and gives the clue to the physical properties of the substances. Sulphur and diamond have been successfully examined thus. The intricate problem of the valency is expected to be solved. Other problems arise in connection with the intensity and polarisation of the Raman lines. An extremely interesting but a very difficult field is the study of the scattering phenomenon with gases whose molecules are made of single atoms, i. e., mono-atomic gases. Investigators other than Raman failed to obtain results because they started with mono-atomic gases, while Raman succeeded easily by using poly-atomic liquids.

No wonder that the scientific world should acclain the award of the Nobel Prize to a person who has made such an epoch - making discovery, which gives us a new method of research to explore the unknown facts of matter. We await to hear more of such wonderful revelations from Professor C. V. Raman and his associates.

The great mystic poet in English, Blake was one of the greatest lovers of children, and his poetry, like Wordsworth's later, expresses a deep understanding of the child's nature. Here are two stranzas from one of the poems included in "Songs of Experience."

—Editor.

The School boy

But to go to school in a summer morn,
O! it drives all joy away;
Under a cruel eye outworn,
The little ones spend the day
In sighing and dismay.

* * * *

How can the bird that is born for joy
Sit in a cage and sing?
How can a child, when fears annoy,
But droop his tender wing,
And forget his youthful spring?

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SLEEP

BY S. RAJAGOPLAN

Sleep, O, gentle sleep,
Nature's soft nurse! how have I frighted thee,
That thou no more wilt weigh my eyelids down
And steep my senses in forgetfulness.

EVERY ONE is familiar with the above lines from Shakespeare, and also has probably at some ime or other complained in the same strain; but though a very common and everyday occurence, the phenomenon of sleep is really a mysterious problem and as such has naturally aroused the curiosity of every thinking being from time immemorial. The poets and the Philosophers vaguely understood the importance of sleep as is evidenced in many of their writings. Shakespeare himself appreciates sleep "that knits up the ravell'd sleeve of care". The sentiments of an average person about sleep are perhaps best expressed by Cervantes in his "Don Quixote". Sancho Panza, himself a profound disciple of slumber says, "Blessings light on him who first invented this same sleep. It covers a man all over, thoughts and all, like a cloak. It is meat for the hungry, drink for the thirsty, heat for the cold, and cold for the hot. It is the current coin that purchases all the pleasures of the world cheap and the balance that sets the king and the shepherd, the fool and the wise man even." The speculations of philosophers had their origin in the primitive man's conceptions of sleep as a period when the spirit leaves the body and communes with other kindred spirits. Nevertheless the problem of sleep has been wrapt in an obscurity that no investigations have been able to illuminate, nor dissipate conclusively. The ordinary man seldom thinks why he sleeps and the reasons for his sleep. But in the last 20 years or so, a continuous effort has been made by the scientists to unravel the mysteries of sleep.

"Death and His brother Sleep". This is how Shelley describes it, and it is very significant because the figure is really true. Both these processes have many common features. Sleep is the temporary cessation of consciousness, while death is the permanent absence of consciousness. The one is characterised by certain physiological and chemical changes accompanied probably by dreams, while the other may be known by the gradual atrophy of the organism. Though consciousness is absent in sleep, we should remember that it is always susceptible to stimuli of a certain degree of intensity. Otherwiss we would never wake up from our sleep. We shall speak about this point later on.

It is needless to discuss the question of the importance of sleep, It is a food both mentally and physically. This conclusion receives added

emphasis when we review our own personal experiences as well as the decisive results of experimental investigations. The drowsy and unhappy feeling experienced by us when for some reason we were deprived of the previous night's sleep, is too familiar to require elaboration. Nearly 25 years ago an Italian scientist proved conclusively by means of a striking experiment the supreme importance of sleep. Subjects who in the first instance were deprived of sleep were dying at the end of 10 days. But after 40 days without food other experimental subjects were alive and in such a condition that food quickly brought them back to par, apparently none the worse for their ordeal. The sleep fast killed; the food fast merely reduced their weight. More recently a Professor of St. Petersburg kept some puppies awake for 5 days, but gave food regularly, despite which they died. 5 dogs were allowed to sleep as much as they liked, but were not fed. The result was curious. They survived till the 20th day. Many instances like the above may be given. An electric suburban train was speeding to Rockaway Park from Brooklyn, passed a red light and plunged full speed into an open draw-bridge on July 21st, 1928. The driver saw the red light flashing its warning to stop. "I saw the signal against me, but I passed it. I saw the bridge open too, but I didn't know why I didn't stop", he told in the inquiry. Then he added, "I needed sleep". The utter numbness of mind incapacitating it to reasoned and prompt action as a result of lack of sleep is quite evident here. Prolonged sleeplessness in human beings damages the brain and the nervous system while it promotes grave bodily changes. The temperature becomes subnormal, the number of blood corpuscles is diminished, the specific gravity of the blood is raised, the various reflexes become irregular and enfeebled. From these the conclusion is irresistible that a certain amount of sleep is equivalent to a certain amount of food and that a person lacking sleep pays a terrible price for it in health, happiness and general efficiency. Sleep rebuilds the body and refreshes the mind.

We may in passing note an interesting theory recently brought forward that sleep may gradually and in course of time be completely abolished. Thus Prof. Low says that if sleep could be avoided or at least largely eliminated, men would make considerable advance towards that state in which they would be masters of themselves, It is too early to comment on such a theory, and whether the Professor's prediction is a scientific possibility, Time alone can tell.

From the standpoint of Bio-physics the phenomenon of sleep is a unique rhythmic process. It is a vital rhythm. It recurs at equal or at least not cognisably unequal intervals of time. As Dr. Harris puts it, "It is life's great rhythm." Life is constituted by several physiological rhythmic processes like respiration, digestion, circulation. Among these vital processes sleep is the most important. The universe in the last analysis is a combination of an unlimited number of these cyclic processes. The succession of day and night or light and darkness, the succession of various seasons one after the other, the alternative waning axing phases of the moon, the ebb and flow of the tide and several

other familiar processes convince us that all these cosmic rhythms are not unaffected by one another. It is conceivable that sleep also is associated with these periodic functions of nature. A detailed exposition of this aspect of the problem would take us far into the fields of physiography, biology, and physiology. The setting of the sun is almost parallel to the sleeping of the organism, and it is a curious fact that things are arranged in such a way that from the beginning of the cosmic evolution, sleep is always and definitely associated with the night. The animal kingdom worked with the rising of the sun and slept with the setting of the sun-a fact which has an obvious reason. Even in the human being the trait is so deeply ingrained that without any guidance man sleeps at night. An interesting but superficial explanation of this phenomenon is that sleep has only been a matter of evolution Primitive man in the absence of the torch or candle light had nothing to do, but to sleep during the hours of darkness and therefore became accust med to 8 or 10 hours of sleep in the night which custom was inherited by succeeding generations. Though erroneous the theory emphasises the vital and intimate relationship between darkness and sleep.

A genetic study of the phenomenon of sleep gives us an explanation. The lowest species, the Protozoa, the Metazoa, the worms, the fish, and other like species never do really sleep. But when we ascend to birds and the vertibrate animals including the human beings, we see that their dominant characteristic is slumber This suggests a causal law, that the more lowly the nervous system of animals, the less they sleep. The nervous system is the greatest and the most perfect telegraphic circuit in the world. and we have within ourselves such a wonderful circuit. The work done by the nervous system is colossal in magnitude, and being too delicate a mechanism to work continuously, must necessarily, as it were, "take a holiday". In other words the activity of the nervous system in sleep is reduced to a minimum. The metabolic process repairs the waste tissues, invigorates the system and gives a correct tension and poise to the nervous system.

The above is a very general and elementary sketch of the analysis of sleep. It is a scientific axiom that if you want to discover the cause of anything, you must assemble and investigate all the conditions of the particular thing. What are the conditions, bodily postures, chemical and physiological changes in this rhythmic process of sleep? Invariably a state of healthy fatigue is a precondition of sleep. A certain amount of fatigue is inevitable if physical or mental work is to be done. The first to be affected by sleep is the muscular system. The muscles completely relax and thus pass into a state of diminished tone. The muscles (taking the striped muscles into consideration) are over 600, and about 200 are arranged antagonistically. As all the muscles and their antagonists relax simultaneously no distortion of limbs is produced. The eyes close and thus light is prevented from stimulating the retina. The muscles of the neck which hold it erect relax, and hence the chin tends to fall on the chest. This is more noticable when a man sleeps as he is

sitting. The heart beats are not intense and thay are also less frequent which result in reduced blood pressure. Breathing is very shallow, but more prolonged. Less Oxygen is absorbed and hence less Carbon Dioxide is evolved. As a natural consequence the temperature falls. The digestive system alone seems to work, thought feebly. The glands in the walls of the stomach and intestines continue to secret and thus facilitate digestion.

A Very prominent characteristic of the sleeping person is quite obvious even to the lay mind. The sleeping person, in Psychological terms, does not react to outward stimuli as the person who is awake does. Sounds, odours and sights to a relatively greater extent do not influence him and fail to produce reactions. The reason is quite evident. The nervous system of the sleeper, as pointed above is in a state of relaxation and rest. Hence the sense organs and brain relatively are inaccessible to stimulation We can classify the external stimuli impinging upon the consciousness of the sleeper in three ways, namely, those whose intensity is not sufficient enough to penetrate the sleeper's consciousness, those which succeed in rousing the sleeper and thirdly those which while they do not rouse the sleeper, nevertheless produce definite reactions on his part. A sensory stimulus sometimes arouses a series of reflex actions through the central nervous system Coughing, scratching, the execution of some reflexes like the knee-jerk, stretching and sobbing, even speaking - these are some of the actions one would perform in sleep. Words addressed to a sleeper sometimes would result in his moving in bed uneasily and readjusting himself afterwards. The reason for such an interesting phenomenon becomes evident when we study the physiology of the nervous system. The nervous system is divided into the cerebro-spinal and the autonomic systems. Leaving aside the latter, we see that the spinal cord is the agent for reflex actions-actions initiated and executed automatically by nerve centres in the cord, The brain or the cerebrum invariably has nothing to do with these reactions; hence it comes to pass that a person asleep is still capable of executing these movements. This leads one to conclude that the spinal cord is more alert than the brain. Thus motor actions even of a complicated kind are possible. The phenomenon of somnambulism may be explained on the same lines. We may sometimes notice dogs barking or growling in sleep which is also due to the spinal cord activity.

It may not be out of place in this connection to point out a peculiar feature regarding the co-ordinated activity during sleep The somnambulist walks unconsciously while he is asleep. He does not remember what he did in his sleep while he was walking. He may walk over the most dangerous places and yet maintain balance; if wakened he may lose it and the consequences may be disastrous. Sleeping and walking are not so antagonistic processes as one would think, for there are innumerable well-authenticated cases of persons walking as they were sleeping. Dr. Crile in his book "A mechanistic view of war and peace" has the following interesting passage, "In this retreat from Mons to

Marne we have an extraordinary human experiment in which several hundred thousand men secured little sleep during nine days and in addition made forced marches and fought one of the greatest battles in history. How then did these men survive nine days apparently without opportunities of sleep? They did an extraordinary thing. They slept while they marched. Sheer fatigue slowed down their pace to a rate that would permit them to sleep while they walked. When they halted, they fell asleep. They slept in water and on rough grounds, when suffering pangs of hunger and thirst and even when severely wounded, they cared not for capture, not even death, if only they could sleep." Dr. Harris gives some other examples. "Many of the camel-drivers in Kitchner's forced march to Khartoum fell from their seats in sheer exhaustion and slept then and there on the sand, while the whole army corps thundered past." Again "More than once the Cross-Channel Swimmer Holbein has been noticed by the men in the boat to be swimming asleep". "In the good old days of torture, people used to fall asleep on the rack".

These illustrations indicate the supreme necessity of sleep and how man is dependent upon it for his very existence. But it is the explanation and not the moral that we are after. It was pointed out that the spinal cord activities are not inhibited in sleep, though the higher nerve centres are at rest. But we may ask the question, "Why should the higher brain centres rest and relax?" The question is tanatamount to asking "How is sleep produced?" A very simple question, but not admitting a simple answer!

Let us first review what is known as the Chemical Theory of sleep. According to this the chief cause of normal sleep is fatigue. The perpetual activity of the muscles and the glands, the brain and other internal organs produces a state of fatigue which is really nothing but a state of mild self-poisoning. The tissues manufacture certain toxins and these chemical substances affect the neural synapses. As a result of this the natural characteristic of resistance possessed by the synapses is increased to a very great extent. Sights and sounds and skin stimulations are not able to evoke the corresponding sensations, for the neural impulses generated by these stimuli are blocked at these synapses and thus are unable to reach the sensory area of the cortex. Thus the brain cells are functionally isolated by these fatigue toxins. The action of the fatigue toxins is not a mere speculative hypothesis, for it is well known that many drugs and poisons like nicotine, morphine, atropine act similarly by raising the synaptic resistance. The temporary isolation of the higher nerve centres results in a period of various degrees of unconsciousness commonly designated as sleep. A large accumulation of fatigue toxins will produce sleep under all circumstances. The case cited by Dr. Crile fully corroborates this point. There is no resisting the onset of chemically caused sleep. But the question may be raised, "How could a sleeping person then walk?" But walking is a very familiar and habitual act and involves merely the spinal cord action and not brain action. The toxins poison and affect the cells in the brain, but leave free the cord.

There is a second theory explaining sleep and we may designate it as the vascular theory. The explanation of the vascular theory is very simple. The circulation of the blood is fairly constant in the body. But when the blood supply to the brain is not adequate but meagre and feeble, then sleep ensues. Thus according to this school of thought sleep cannot set in unless there is a diminution in the vigour of the cerebral circulation. As a matter of fact observations on sleeping persons and animals show a state of relative anaemia-diminution of velocity of blood flow and therefore in unit time less blood passes through the blood vessels in the brain. But how did the scientists come to this conclusion? The volume of blood in the body is fairly constant. If there is a diminution of the circulation of blood in the cortex, the excess of blood must be circulated in some other part of the body. That this is so has actually been verified by the use of the Pleythysmograph. It is a delicate instrument used for recording the varying volume of a member of the body due to constriction or dilation of the blood vessels in that part of the body. If the arm of a person be enclosed in a water pleythysmograph it is noted that as sleep comes on the volume of the arm increases and that when sleep passes off the volume of the arm diminishes. The same fact is brought about by the use of Mosso's "Human Balance". A person who is awake is accurately balanced on a table, specially constructed by scientific technique, and is allowed to fall asleep. As he does so the foot-end of the table sinks as a result of excessive flow of blood in the legs.

We should remember that the chemical and the vascular theories of sleep are not opposed to one another, but are mutually supplementary. They simply emphasise the two aspects of one and the same phenomenon, namely sleep. But all is not smooth sailing regarding the vascular theory, for the question rises, "Why should the cerebral blood supply be diminished at nights and not at any other period?" Here we can do no more than give a simple outline of the probable reason. Apparently the cause of the feeble blood supply to the brain is to be found in the fact that owing to the dilation of the blood vessels in the skin and the viscera of the abdomen, more blood is supplied in those regions thus depleting the cortex. But why should the visceral arteries dilate at night? Probably it is due to the fatigue of the vaso-motor center. The vaso constricter center poisoned by toxins acts very feebly and thus permits more blood to course through the abdomen.

Psychological causes also may account for sleep as well as for lack of sleep. Absence of any mental occupation or activity is quite conducive to sleep. That is why children and happy-go-lucky sort of persons sleep easily. "The sleep of the just" is a term that can very well be applied to such a phenomenon. It is a familiar statement that any strong and intense emotion makes sleep well-nigh impossible. The student at the approach of the Degree Examination, the youth about to set sail for the first time to foreign lands, the merchant faced with failure and insolvency, a person vindictively hating another with a ferocity unimaginable-these cannot sleep. The reason is evident. As these go

on thinking about their problems and situations, the heart must needs pump out blood to the brain and so long as the circulation is intense, sleep is unrealisable. The majority of persons suffering from insomnia are of this type. A calm attitude to the vicissitudes of life and a capacity of banishing all worries and anxieties half an hour before sleep and thus enjoying unbroken sleep is unfortunately not given to all of us. Nevertheless that is the only way of wooing the elusive mistress of sleep. A person suffering from insomnia must also see that he excludes every sort of disturbance-visual, auditory, olfactory, etc. There is nothing to be gained by torturing oneself over sleeplessness. If one does not get sleep, it is an indication for the time being that relatively his system is not in need of sleep. It is obviovs that a person whose only exercise and work is walking a few steps to his car, cannot get sleep even if he desires. A healthy fatigue is an absolute precondition of sleep.

Many other problems yet remain to be carefully solved by the scientist. Sleep after all is only one type of the absence of consciousness. What is the relation between it and other types of unconsciousness; like lethargy. the cataleptic trance, syncope, collapse, unconsciousness related to cerebral anaemia, coma, auto-toxaemic conditions like asphyxia, and absence of consciousness resulting from the absorbtion of some narcotic like Alcohol, Bromide, ether, etc? How is sleep related to Auto-suggestion? From the genetic and biological standpoint, what were the antecedental conditions that led to the sleeping process and how did sleep evolve? Can sleep in future be entirely diminished as being unnecessary, wasteful and extravagant as some modern theorists argue? Problems like these have yet to be answered and upon the answer may depend the world's prosperity and its civilisation.

To Sleep

O Soft embalmer of the still midnight!
Shutting with careful fingers and benign
Our gloom-pleased eyes, embowered from the light,
Enshaded in forgetfulness divine;
O soothest sleep! if so it please thee, close,
In midst of thine hymn, my willing eyes,
Or wait the amen , ere thy poppy throws
Around my bed its lulling charities;
Then save me, or the passed day will shine
Upon my pillow, breeding many woes;
Save me from curious conscience, that still lords
Its strength for darkness, burrowing like a mole;
Turn the key deftly in the oiled wards,
And seal the hushed casket of my soul.

—*Keats.*

ENERGY AND ANNIHILATION OF MATTER

BY S. RAMAKRISHNAN

LAYMEN completely immersed in the humdrum duties of the worka-day world fail to grasp the significance of the universe around them, and it is no wonder that when they are questioned about the mystery by means of which the universe is kept going, unable to answer it scientifically, are driven to invoke the help of God. But the astronomers and the physicists have explored the sky with their giant Telescopes and wonderful spectrometers, and seeing the stars like our sun in vari us stages of evolution, have thought very seriously about the beginning and the end of the world as well as the process by which the universe is run. If the Sun and the stars cool down suddenly and refuse to send vast streams of energy, would life continue on Earth? How many huge industrial and commercial enterprises as well as thousands of miles of railway would stop working, if only by some magic hand, the generators of electricity stopped working and all the gates of the coal treasure locked? Suffice it to say that the universe is running by the aid of vast streams of energy from all sources and if we are mainly concerned with the fate of the Earth, particularly from the torrents of heat and light radiated from the Sun. Some in their wild fancy may picture an earth without the Sun, but lit by artificial miniature suns created by electricity. But the next moment they will not fail to recognise that the waterfall which is the chief source of their electricity is caused only by the sun who is the mysterious hidden hand that completes the water cycle.

Apart from energy there is another which Physcists call matter. At any rate till the end of the 19th century matter and energy were quite distinct entities, having nothing common between them. The twentieth century would appear a glorious epoch in the history of Science, for it is in this century that the barrier between matter and energy is broken and for the first time Physicists have shown that ultimately energy is derived from the destruction of matter. Thus matter and energy are interchangable. In the following few paragraphs the facts which have led up to this great truth and the consequences arising from it will be set down briefly.

It was in the year 1847 that the principle of Conservation of Energy was put forward. This means that the sum total of energy in the universe is constant. James Prescott Joule of Manchester convincingly showed by his classical experiment that 1 calory of heat energy was equivalent to $4{\cdot}2\times10^7$ ergs of mechanical energy. This line of discovery was followed up by Clerk Maxwell when he established the purely electro-magnetic nature of all optical phenomena. Thus by the end of the 19th century the fact that mechanical energy, heat, light, magnetism and electricity are merely forms of energy was recognised by all scientists.

They believed that if 1,000 ergs of light energy were to fall upon a perfectly black body which could absorb it, then it would be converted completely into 1,000 ergs of heat energy.

Meanwhile as regards matter it was divided into molecules, and molecules into atoms, and the latter could only be thought of during chemical changes. But with the invention of the vacuum tube and the method of sending an electric discharge through rarified gas contained in it, fresh light was thrown on the structure of the atom. The nucleus of the atom, that is, the Proton, and the electrons describing orbits around it were discovered. The exact nature of the paths of these electrons has been the subject of research during the last 25 years, and the work of Bhor, Sommerfeld and Planck has added immensely in that direction. Sommerfeld has proved convincingly that the electrons are describing elliptical orbits in the same manner as the planets round the Sun. But these electrons can under certain conditions jump from one orbit to another and when they do so, they either absorb or radiate energy in integral numbers of Quanta. Each orbit is associated with an energy level and between the proton and the electron in that orbit a fixed quantity of energy is stored in the atom. If the electron jumps from a higher energy level to one of lower energy an amount of energy equal to the difference of two levels will be radiated in integral numbers of quanta.

Are the electrons and protons held together? Is it not possible to knock out either the electron or the proton outside the domain of the atom? What would be the result of such separation? The X-Rays the precious tool of the modern doctor are nothing but streams of invisible impulses caused when the bereaved electrons from the negative terminal of the vacuum tube travelling at 1,800 miles per second, impinge upon a hard metal. Owing to the extreme shortness of their wave-length, the X-Rays penetrate through matter opaque to ordinary light. Through the discovery of Uranium by Becquerel in 1896 and later in 1903 the discovery of radium by Mme. Curie, and the study of disintegration (breaking up) of Uranium and other radio-active material, one more important fact was diclosed to the world. The atoms of an element without any external coercion may give off a continuous stream of protons and electrons. The stream of protons or positive charges is known as Alpha Ray, and the stream of electrons the Beta Ray. Lastly during the disintegration there is another electro-magnetic wave caused along with Alpha and Beta Rays. It is the Gama Ray whose wave length is shorter than that of X-Ray. What is most important for us is that during this disintegration there is a loss of weight of matter equal to 1/4,000 of the original weight, and a quantity of electro-magnetic energy is radiated. Thus in this case radiation is caused during the transformation of one kind of element to another by destruction of a few of the atoms of the first element.

The crucial evidence for the annihilation of matter comes from the facts discovered by the Astro-Physicist in his attempts to measure the weight of the Sun and the other stars, the amount of radiation streaming

out of Sun's body every second, and the age of the Universe. By a study of (1) Binary stars and their orbits round each other (2) the velocities of different types of stars, and (3) the internal movements of spiral nebulae, Dr. Jeans was able to find out that the age of the Sun was 8 million million years. As a contrast with this age, the age of the Earth has been found out to be 2,000 million years. During the 8 million million years the Sun has been radiating continuously energy, though not at the same rate, for during its younger days, when it was just born out of its parent nebula, he must have been pouring forth energy at a greater rate. At the time when the principle of Conservation of Energy was propounded, the real cause of the vast streams of energy became a puzzle of first rate difficulty. If the rate at which the Sun is radiating energy is expressed as so many ergs per second, this cannot convey any meaning to the lay reader. Dr. Jeans puts it thus—"The sun at present pours out radiation at such a rate that if the necessary energy were generated in a power station outside the Sun, this station would have to burn coal, at the rate of many thousands of millions of millions of tons a second". We know that there is no such outside power station and the Sun carries its own store of energy. What is the nature of this store?

In answer to the above question Robert Mayer in 1849 suggested that the energy required was caused by a continuous fall of shooting stars into the solar atmosphere. During the fall and when they got burned it was believed by him that streams of heat and light radiated from the Sun. This suggestion was driven to the wall, on a simple calculation that if a mass of shooting stars equal in weight to that of the Earth fell into the Sun, the heat and light, generated would not sustain the Sun even for a hundred years. It is also found, if this were to be true that the Sun would be increasing in mass at an enormous rate. This is impossible because it is found by astronomers helped by Astro-physicists that since the rate of radiation is decreasing day by day, the mass of the sun should also be decreasing in accordance with the law that the luminosity of a star is directly proportional to its weight. (Eddington 1924). In 1853 Helmholtz put forward that the prodigious output of energy was a consequence of the contraction of the sun under gravity. According to this hypothesis the time required for the Sun to assume the present weight was calculated and was found to be not more than 20 million years. This figure does not tally with the age calculated by other exact and surer astronomical methods. Again the facts about the disintegration of the redio-active elements was brought to solve this puzzle. It is calculated even if all matter in the Sun were radio-active, the heat and light generated would not be one third of the actual output. Further in very recent years a peculiar type of radiation of shorter wave length than that of the Gama Rays has been detected in the Earth's atmosphere. It is a conjecture that the cause of these rays should be some mysterious change of matter in the interior of the stars.

Thus the three hypotheses have failed to solve the weird puzzle of the source of energy in the Sun and the stars. The same question has been approached from another angle. This is based on the fact that

electro-magnetic radiation carries weight with it, and a stream of energy falling upon a surface exerts a minute pressure which was first measured experimentally by Lebedew in 1901 and found to be 7×10^5 dynes per square cm. As a consequence of this, radiating matter should be losing weight, which is supported by the facts connected with radio-activity. Thus knowing the rate of emission and the area of the Sun's surface it has been calculated that he is losing weight at the rate of 4 million tons a second.

In 1904 Dr. Jeans gave an idea of the large amount of energy capable of being liberated by the annihilation of the atom, for it has been shown by Quantum theo y that the atom is mearly a reservoir of enegry as explained above. Einstein's theory of relativity helped the Physicists in calculating this amount of energy. A gram of any substance sets free 9×10^{20} ergs when its atoms are completely annihilated. If this rate of liberation of energy as basis, the time required for the Sun to be reduced to the present weight were calculated, the result is more than that is obtained by purely astronomical methods. Thus the most probable source of stellar energy is regarded to be annihilation of matter. Matter and energy can no more be said to be indestructible. They are merely interchangable. To the forms of energy mechanical, heat, light, magnetism and electricity, should now be added matter also.

As a conseqnence of the newly found out fact we have to consider the Sun and the stars composed of atoms as merely bottles of energy. During the flooding of the trees by vast torrents of energy from the Sun, the energy is rebottled in them and it is liberated when they are burnt. Also the amount of heat liberated by complete oxidation of coal is about 5×10^{16} ergs of energy per ton, whereas the energy liberated by complete annihilation of atoms of 1 ton of coal would yield 9×10^{26} ergs. So the energy got by merely burning coal is very insignificant when compared with that obtained by complete destruction of coal. If one were to find out an easy method to destrcy the atom and collect the energy stored in it, he can make life on earth immensely better.

The Sun, stars and the nebulae are all rediating energy at an enormous rate and so they must be growing lighter and lighter year by year. Will they be reduced to nothingness? What becomes of the energy so radiated? Cannot the free energy once again build up electrons, protons and so the atom? In other words will there be another creation? The last question is answered by science in the negative. The answer is based upon the chief secondary law of Physics, the second law of Thermo-Dynamics. According to this law things can be undone and there can be no redoing. The Universe is running downhill and there is no chance for it to retrace and go uphill and run down again. In short from the energy point of view, all kinds of energy finally will be transformed into heat energy. It has been found to be impossible to transform heat energy into light or electricity. The same fact is

expressed in another way. As Dr. Jeans puts it, "Energy is indestructible as regards its amount, but it continually changes in form, and generally speaking there are upward and downward directions of change It is the usual story-the downward journey is easy, while the upward is either hard or impossible. As a consequence more energy passes in one direction than in the other." Radio-active energy changes from one of the type of shorter wave-length to one of the type of longer. Thus light changes into heat. Ultra-violet radiation is of shorter wave length than visible radiation. No substance put in the infra-red region of the spectrum becomes visible. for there cannot be a change from longer wave length to shorter wave length.

Energy is always running downhill, from higher degree of 'availability' (electricity, light) to the lowest degree of availability (heat). Eddington in his book, 'The natute of the Physical world', puts the same idea in a manner which may appeal to the reader better. Consider the rhyme:

Humpty Dumpty sat on a wall.
Humpty Dumpty had a great fall.
All the King's horses and all the King's men
Cannot put humpty Humpty together again.

Eddington says that if there had been a perfectly elastic mat underneath that would have sufficed. But a perfectly elastic material is not a practical thing. A falling stone acquires Kinetic energy, but when it strikes the ground all of it is converted into heat. We cannot lift the stone and put it back by scraping together all the heat and putting it into an engine. An engine can never be perfect or its efficiency can never be unity practically.

When all the energy which is liberated from the destruction of matter is radiated it descends into the lowest level of availability, i.e. heat. This change cannot go on for ever, and it comes to an end when the energy is left with no more power to change. Finally the Universe will be nothing but an ocean of heat energy. Does this make the Universe warmer than now? Certainly not, for the density of distribution of matter in space is exceedingly low. On the estimate of Hubble it is $1{\cdot}5 \times 10^{-31}$ gms. per c cm. i.e. $\frac{1{\cdot}5}{\text{1 followed by 31 zeros}}$, whereas the density of water is one gm per cubic centimeter. If all this is converted into energy at the rate of 9×10^{20} ergs per gm. it would come to $\frac{1{\cdot}35}{1{,}000{,}000{,}000{,}0}$ ergs which can raise the temperature of the Earth's surface to 1/6,000th part of a degree centigrade, from absolute zero, i.e., a temperature less than that of liquid air. This is because the space is so utterly devoid of matter, that Dr. Jeans compares it to Waterloo Station where there are only 5 specks of dust.

From the facts explained above, it is a very dismal future that awaits the universe. The working of the annihilation of matter and the second law of Thermo-dynamics leaves towards the end a 'heat-death' from which the universe has no chance of being reconstructed. Science has not given support to the fanciful picture of a new universe after the present one is dead, unless we cling to a remote hope that God may stir the ether and create a form of energy of higher degree of 'availability' than that of the cosmic ray, and create once again electrons, protons, and the atoms.

THE ESSAY

BY LAKSHMINARASIMHAM (II CLASS)

IN these day when literature is not the monopoly of a particular class and when even the working classes have their own papers and magazines it is no wonder that a literary form capable of meeting these demands should evolve itself, · The development of the Essay in English literature illustrates my point. The Essay today is the most popular literary form, and with the exception perhaps of the Short Story is most difficult to define Everyone knows this famous definition of the Essay by Dr. Johnson, that it is "a loose sally of the mind; an irregular undigested piece, not a regular and orderly composition". This definition, however true of the original Essay, cannot be applied to the large number of essays that are published everyday by famous living writers, like G. K. Chesterton, Hilaire Belloc, Lucas, Dean Inge, and others. The modern Essay is not "a loose sally of the mind"; it observes certain specific rules of the art of writing and within certain limitations, is one of the most readable things in modern literature. Many a master of English prose has used this evolved form as a medium to expound his thoughts, and anyone who has read the Essays of Arnold Bennett or Dean Inge or A. G. G. will have realised that the Essay is not "an irregular undigested piece".

The Essay is essentially a work of art, and as such it admits of an infinite variety of expression. It comprises a very large body of subjects within its range. It covers the whole field of imagination for its material, subjects ranging from China to Peru; from Wasps to Metaphysics; from Cinema stars to the theory of Relativity and from Races to Religion. Now to write an essay in the modern sense of the term requires great literary skill and power of expression. Perhaps a body of organised knowledge is not necessary to the writer of the Essay. It is even a handicap; for the man of knowledge usually does not possess that 'lightness of touch' which is the very lifeblood of an Essay. An Essayist must be able to write according to his fancy on whatever that strikes him. He must just be in the humour for writing, that is all. Then he can write upon anything, or something or if necessary on nothing at all. Some of the most charming essays I have read are those which do not deal with anything very 'heavy' in particular; but which are just fascinating to read. We should there fore not be far wrong, if we say that the Essay in modern English does not aim at a comprehensive treatment of any subject, but it is a short, pithy and superfluous treatment of a subject. The way to write an essay is to forget that you are writing at all. You simply put your pen to the paper, and as ideas flow record them in as interesting a manner as you can, taking special care not to make your writing laboured, boring or learned. If we regard it as a task, then we had better not attempt an essay at all.

The modern Essay owes a great deal to the past. Montaigne, the great French writer is called the "Father of Essay Writing". The French language, it is said, has a certain vivacity which easily lends itself to a light treatment of any subject. Besides Montaigne and his followers were remarkable writers who had consciously cultivated the art of writing and hence their essays became the models for writers in other countries, particularly the Essayists of the 18th century in England. One of the greatest things which the English writers borrowed from the French masters was a conversational ease. A good essay should be written in a simple conversational style, though a simple style need not mean an insipid, and lifeless style of expression. It is this charming simplicity that makes Addison's and Steele's essays so irresistible. Bacon's Essays suffer a little from a tendency to moralise, though his style is easy and readable. Bacon my be called the earliest writer of essays in English literature. They are full of shrewd observations, pithy sayings and a fund of knowledge and human experience. He is always personal, and as a matter of fact this personal note is essential to any good essay. The reader ought to feel that a good and clever man is conversing with him, and that is what a good essay does. In other words, there is in a good essay a certain delicious "egoism" or a sense of intimate personality.

The essays of Addison and Steele have been the delight of students of English literature. They remain unbeaten on their own ground by any subsequent writers. What we love in these essays is a refreshing good humour, which never puts you out of temper. Addison is one of the most genial of friends and his delicious humour, without the least suggestion of malice or cynicism in it, flows like a limpid stream refreshing and enlivening anything he touches upon. His favourite theme is the absurdities of female fashion; but he does not like some modern anti-feminists go into a frenzy over the sins of 'flappers'. A broad human sympathy and a cultivated toleration are essential for an essay and these qualties both Addison and Steele possessed in abundance. It is the want of these qualities that brought down essay-writing later in the 18th century a little to the level of pamphleteering. Satire by its nature is negative and a good essay can spring only from a positive human sympathy. But the 18th century must be regarded as the golden age of the Essay, and the work of its writers is a very valuable achievement in the field of prose literature in general. Besides their insistence on contemporary social themes was a very valuable element in the development of the essay. Pope, one of the most powerful writers in English literature expresses this idea in his poetry and in one of his longer poems he says that "the proper study of mankind is man".

The real province of the essayist is therefore man-human life in all its aspects from the lowest to the highest. At the same time this human element must be introduced naturally, vividly, and unobtrusively. A philosophic treatise like Berkley's "Principles of Knowledge" is certainly a work of very great human interest; but it cannot be called an essay. An essay must be lighter, more lucid and less comprehensive. It must be personal in the sense that the author's personality is felt

intimately throughout the writing. Lamb is the prince of Essayists, Nothing can equal his quaint humour and unobtrusive geniality; at the same time Lamb very often draws tears from us-tears that we are not sorry for shedding in sympathy with the writer. Lamb is one of the most loveable among English writers and one need not know anything of his life, his supreme sacrifices and his sufferings-to realise this. I do not know of any other writer in English who shows such beautiful love for his fellowmen as Lamb does in his well known "Essays of Elia".

A study of modern essayists makes one thing clear. Essay-writing is an art by itself. It requires no eloquence, no erudition, and not much of depth of understanding. The absence of these qualities is not, however, a defect. It is on the other hand the highest merit of an essay that it is spontaneous, witty, vivacious and detached. A certain degree of detachment of outlook is quite necessary for an essayist. He is the real spectator of human life as it passes in kaleidoscopic variety before him, with its beauty and squalor, its littleness and greatness, its majesty and its pettiness. But above a'l he sees life in a spirit of good humour. Life to him is not a task to be endured, but a glorious and, if you like, a funny adventure and worthliving after all.

CONTROL AND ORGANISATION OF STUDENT LIFE IN COLLEGES.*

BY H. S. RAO

IN spite of University commissions and annual Convocation platitutdes, the unreality of our system of higher education remains just the same. It is not too much to confess that the organisation of our colleges is yet primitive and hence our education is not vital, purposeful and creative. It is a well known fact that no constructive efforts are made by Universities in this country to organise the work of the colleges under their supervision on the basis of the fundamental purpose of all higher education, which is to train the youth not only in the acquisition of knowledge, but also in the processes of the acquisition and the use of knowledge. The central problem of College education may be stated in the terms "How can education enable one to make the most out of life?" In other words the main problem of college education centres round the student, not as an indispensable mechanical entity but as a living human personality. The failure to understand this fact is at the back of so much tragic waste of human effort we see in the field of higher education in this country. In America where University organisation has reached the highest point of efficiency, the problem is attacked with increasing success and the results of modern University organisation have been so interesting and beneficial that I need make no apology to base my article on the work of some of the well known Universities in the U. S. A., particularly Minnesota, Chicago, Pittsburg and Maine Universities.

The main questions regarding this new organisation of University life in the U. S. A. are these: Orientation with regard to the field of knowledge, whose main purpose is to offer to the student in a University some measure of significant and useful knowledge of each of the main fields of human interest, so as to make him a sympathetic, broadminded and generally intelligent member of society. Secondly there is the important question of student health for which there is an elaborate and efficient Health Service in every college. Thirdly many of the American Universities have set afoot a very interesting and useful programme of what is called "Student Counselling" with Advisory bodies of experts whose duties are of a varied character and whose main purpose is to afford the student in their charge an efficient guidance in all matters concerning his personal, academic and social life. Lastly there is what is known as Vocational Guidance and Selection which is really a part of general student counselling, but which also serves a more special purpose, namely, to advise individuals with regard to the choice of a vocation which will be suitable for them. This department is related to an efficient Employment Bureau which considers the special aptitudes of each individual and helps him or her in getting employment. The result of this vast

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*Based on "Problems of college Education" (Minnesota University, U. S. A.) 1929.

network of organisations is the emerging out of the Universities of a new type of graduate with remarkable powers of adaptibility and greater self-confidence and an outlook on life which is fresh, purposeful and creative. I am not using these words arbitrarily, for the proof of this is so clear; it has made life in America vastly more efficient and more worth living than what it was say 20 years ago. What India needs today is not the pale, anaemic and drifting type of graduate, the dead product of an aimless education, but a new type of youth with a physical and mental energy to place our national life on surer and stronger foundations.

A brief survey of this programme of control and orientation of student life will be interesting. Let me consider the first, namely, the orientation of the field of knowledge. As a matter of fact the whole problem of orientation is a problem of general education. Its main object is to acquaint students with fields in which they cannot take courses. It really means a kind of synthesis of all knowledge available presented in such a manner that it can be easily understood and grasped by the average student. An orientation course intelligently planned saves so much waste that is going on in our daily lives in acquiring new knowledge. It is useful to remember that this orientation course extends over the whole period of university training and sometimes in vacations when it is made available for all those who are interested in it. Besides, this main orientation course is preceded by what is called a "Freshmen Week" in most American universities. The Freshmen week is a very useful institution, as it helps to lay the foundation for useful and purposeful academic life for the student and introduces him to the conditions obtaining in the College, his surroundings, and the ideals which the College holds up before him This goes a long way to prevent any maladjustment in the student later, and this means a very great gain not only from the student's point of view, but also from the teacher's, as most difficulties arise as a result of a lack of proper adjustment between the student and his environment including the teacher. There is a special orientation course for the freshmen during which the fresher is introduced to members of the staff and to his advisors or Tutors as the case may be This course consists of lectures on general problems of college life, such as the ideals of University education, how to use the Library, how to read, and short and instructive talks by special instructors on the extra-curricular activities available in the college. The fresher is advised on all points of his academic life, including his expenses and the proper budgeting of his financial resources, examinations, choosing a course of study, and any other subject affecting his life both inside and outside the University.

The main orientation course is much wider in scope and a very carefully planned programme of lectures, talks and discussions is necessary to make it really useful. The two great Universities in America that have planned a really constructive programme of courses are Chicago and Minnesota Universities. I shall briefly indicate the general plan of these courses. The basic principle of these courses is the fact that day by day our knowledge becomes a little more extended and

a little more profound and that it is the business of every educated man to acquaint himself with the advancement of knowledge, so that it may be pressed into the service of the art of life. The course extends over the whole period of college life and is divided into three parts. The first is a course of lectures and practical demonstrations on the physical sciences and it is cerefully planned. so as to develop the story of life from the beginning to modern times. They start with the story of the origin of the earth, the study of astronomy, physics and chemistry, everyday science, plant kingdom, animal kingdom ending with Psychology. The second course consists of lectures on Historical science or Social sciences as they are called. The chief aim is to give the students a groundwork of knowledge regarding man's achievement in society and of the development of social, political and religious ideas. Problems of the present day are discussed under the guidance of the teachers and students are made acquainted with the main currents of events in the world today. The third course deals with the arts and the Chicago University has an ambitious programme of lectures on various subjects relating to man's creative achievement in the world, such as, architecture, sculpture, painting, music, literature, etc. The administrative and organising machinery necessary to work these courses is highly efficient and these courses do something which no Indian Uuiversity has yet attempted on an organised scale. These courses provide something valuable and permanant and are designed to arouse among the students a spirit of inquiry, foster independent thinking and encourage the exercise of individual judgment. They also provide a synthesis of all available knowledge and the discussions and readings that follow these courses foster that most valuable quality among a student, intellectual alertness.

We next come to the establishment of an efficient Health Service in the American Universties. This department consisting of experts in mental hygiene, medicine, surgery, etc. enjoys a status and position like any other faculty, and the service is directed by one whose work brings him into close contact with students, their ways of living, etc. The various activities of the student Health Service can be classified under three main divisions. In the first place, there is the department of physical examination It consists of many experts who examine the student separately and so the student undergoes a thorough test. At the end of the test the results are summarised, their significance is explained and recommendations for their correction are made. These examinations are carried over the whole period of the student's college career. Secondly there is the Periodic Health examination which serves a very useful purpose. Under an efficient test involving examinations for the minutest symptoms of ill-health, the student's health is preserved and actual breakdown in health from diseases like Tuberculosis is prevented. The greatest value of these periodic examinations is their educational significance. They tend to develop in the student habits of good health and afford an incentive to improve health habits. Thirdly there is the special physical examination which every student who is in training for any special athletic performance undergoes. This examination prevents students from attempting more than they are capable of doing in athletics

and other games involving considerable physical strain. Besides the Health Service every college has an Outpatient Department, a Clinic with uptodate equipment for treating even the most complicated diseases, a department of mental hygiene which tries to apply recent methods of applied Psychology in the treatment of mental and emotional conflicts which if neglected may lead to serious trouble like neurosis and other symptoms of mental ill-health.

We now come to perhaps the most interesting experiment in education. I refer to "Student Counselling" as it has been called in the Minnesota University, the first university in America to adopt this programe on an organised scale. The basic principle of this programme is the uniqueness of the student's personality and the elaborate planning of student counselling is the right step in higher education. It will do more than anything else I know of, to make our education more fruitful and purposeful, and it will probably revolutionise the whole field of college discipline. The average youth in a college is a highly unfinished product, and as he is in most cases, one who has just reached adolescence, it requires infinite tact, sympathy and knowledge to direct his plastic powers to the enrichment of his personality and the service of society. The most important element in student counselling is a deep intimate personal relationship between the teacher and the taught. We need not be frightened by the name. Student counselling is only the development of a technique for aiding students to overcome their difficulties, The counsellors or advisors are usually members of the faculties with special aptitide for the work and the aims of counselling are mainly two. In the first place to bring about a more harmonious adjustment of individual students to the opportunities available within and without the college and second to establish as far as possible a friendly and constructive personal relationship betw en individual members of the staff and students desiring such relationship. The first aim is certainly more difficult to attain, as it involves a close study of the student's personality from many points of view. The scope of counselling is indeed very wide, including advice on curricular matters, health and any and all matters which affect the student's work and his success both and a students and a citizen. The advisor helps the student to make the most of his college opportunities and to realise in the highest degree his own possibilities. A record is kept of each individual student in which are entered all matters gathered during special interviews or otherwise, and a minute description is put down of the student's hours of study, methods of study, his activities inside and outside the college, his interest in reading and other intellectual occupations, his friendships, domestic relationships, his emotional difficulties, his special aptitudes, his weaknesses, aspirations, health and vocational aptitudes. To compile a record of this kind involves infinite patience, ability and sympathy and the labour spent on it is worth-while, as the results have conclusively showed. A summary of interviews and meetings, talks and discussions is prepared at the end and this is bound to be one of the most precious documents concerning the student's career in the college. The authorities are always kept in touch with the facts gathered in these interviews and if there is anything which the...

to rectify matter, it is done immediately. For example if any fact about the student's health is gathered in the course of the interview, directly or indirectly, which might affect his future prospects, steps are immediately taken to give the student the benefit of expert advice to suit his particular case, and thus very serious consequences that might have resulted are prevented in time. Again the intimate personal relaticnship established between the teacher and the student helps the latter in many ways. He feels that there is some one older and more experienced who takes an interest in his affairs, and this feeling has in most cases saved a student from any emotional and other difficuties and prevented the catastrophe of painful maladjustment from which youth usually suffers. It is of very great importance that this work is done in the most tactful manner and in the right spirit, and as President Wilkins of Oberlin College, U. S. A. put it, "no one short of the highest order of the angels could do advisory work".

Regarding the last feature of American University organisation, Vocational guidance and Selection, I have very little to say here. Every University College in America has a highly efficient Psychological Laboratory where the student undergoes many tests of intelligence and vocational aptitude. The former test the student's general intelligence, while the latter are used as supplementary to the Intelligence tests in the selection of suitable applicants for the various trades and employments as well as in advising individuals with regard to the choice of a vocation which will be suitable for them. The vocational counsellor is broadly acquainted with all the requirments of the different occupations and is highly skilled in assessing individual physical and mental traits and he advises and guides the student by fitting the individual aptitudes to the vocational requirements. The aim of vocational guidance is to help the individual to make his selection, as far as possible on thoroughly scientific grounds. Thus the tragedy of a square man in a round hole which is enacted in most cases is prevented and a terrible wastage is cheked in time. The various tests range from purely physical rating to highly involved and intricate mental tests suited to particular occupations and trades.

What this enormous organising work has done for the American Universities, we in India cannot have an adequate idea, unless we actually go there and see the results ourselves. I honestly believe that though work of the same magnitude is not possible in India, owing to various difficulties, yet it is worthwhile to begin this work on a small scale in individual colleges and in some of the newer universities like the Annamalai University where the nature of University organisation affords ample opportunities for this kind of work. Something of this nature was being done in the National University started by Dr. Annie Besant under the guidance of eminent educationists like Dr and Mrs. Cousins, Mr. Ernest Wood, and Mr. C. S. Trilokekar. In Madanapalle we are making attempts to carry out on a very small scale the ideals of these newer American Universities, and I give briefly the programme which might be followed by other colleges where the experiment has not been

tried. Every college must have a Freshmen week at the beginning of the first term with the object of giving the freshers an idea of college life and familiarise them with the new sorroundings into which they have entered. Useful lectures, talks and discussions must be organised by the different departments of the college and every attempt must be made to make the student feel that he is not a negligible factor in a vast educational factory, but a unique personality awaiting a glorious unfolding through education and culture. We must remember that what the college student wants is the nearest thing he can get to a friend who knows how to enter into his feelings and sympathise with his difficulties, and this help, sympathy and affection can be given in a very large measure by the teachers. Next there must be a carefully planned course of lectures, talks and discussions and practical demonstrations on Physical science, social sciences, and the arts which must be made compulsory for all undergraduates. The course must be highly efficient and made easy and interesting. I know most of our mofussil colleges can hardly undertake the work. I should think the University can arrange for a course of this kind for colleges situated in the area of the University. The smaller universities like Dacca, Agra and Chidambaram can organise these courses without much difficulty, so also individual colleges, provided they have enough and suitable men to do it. Thirdly the programme for student counselling must be immediately undertaken by our colleges, and though it is not possible to organise the highly technical tests in many colleges, the other items of the student sounselling programme do not present any difficulties, provided the teacher realises the responsibility and sacredness of his work and makes an earnest attempt to utilise his personality for the greatest benefit of the students in his charge. There is no medical or health service of any kind in our colleges, and we who find it is difficult to advise a student on toothache may well despair of ever creating that vast machinery which studies the health habits of students in the American Universities and gives guidance and advice to them on some of the most important things of bodily health and mental hygiene. But a beginning can be easily made in these directions in our colleges and universities.

PRINCIPAL C. S. TRILOKEKAR

PROF. C. V. RAMAN

OUR PRINCIPAL *

BY B. RAMA SASTRY (IV CLASS)

I regard it highly presumptuous on my part to speak about Mr. Trilokekar. He is so well known to you all that it would be very difficult to say anything new on this occasion. Mr. Trilokekar's great work in the field of education is the first thing that occurs to my mind today. To me it centres round two eternal principles of love and service, and is enriched by the unique personality of the man that is behind it. His robust optimism, his love of the good, the beautiful and the true in the real Greek sense of the terms have done a great deal to make education in Madanapalle purposeful and fruitful. He is pre-eminently the students' friend, and many a student with an almost broken career staring him in the face has been saved by him. His love for the poor and the oppressed is the most beautiful thing I know, and I think of these lines in Shakespeare whenever I think of Mr. Trilokekar.

My bounty is boundless as the sea ;
My love as deep.

I have yet to meet another teacher who has such a high and noble conception of his profession as Mr. Trilokekar has. He is a thorough stranger to that 'insolence of office' which very often brings disaster into the educational field. His great sacrifices in the cause of education are well known. As an educationist he has put poetry into our life here and has made Madanapalle a centre of great and ennobling influences. He does not believe in a soul-less and stereotyped system of education which obtains in most colleges and which is one of the greatest sources of discontent among our young men today. Mr. Trilokekar's great object in higher education is to make his students useful citizens of their country. He is never tired of dinning into our ears those qualities of mind, body and heart which are necessary for dedicated service to one's country and one's fellowmen. Gifted with a rare capacity to impress his class, he makes his lectures on Religion and Physical culture

* A summary of a speech delivered on Mr. Trilokekar's 55th birthday, on January 7, 1931.

useful, inspiringand exceedingly interesting. To attend his lectures is in itself a liberal education. One constant theme of his talks to us is the ideal of vigorous manhood and womanhood of which the world is so much in need today. He stands for the fullest development of the student's personality, and therefore does not believe in an antiquated system of discipline that obtains in many educational institutions in this country and elsewhere.

As a man Mr. Trilokekar is simple, unostentatious, and kind. We have heard him so often saying that "life is an opportunity to love." In his own life he has put into practice the eternal principle of love. His large heart can forgive 'more than seven times' the mistakes we commit. He has succeeded in conquering the hearts of his students and colleagues by love and kindness.

I wish him many many returns of this happy day.

PROFESSOR C. V. RAMAN

Thecareer of Prof. Raman has throughout been brilliant. After hisbrilliant scholastic career he qualified himself for the FinanceDepartment (higher service) in which he rose to be the Deputy Accountant-General of Posts and Telegraphs in Bengal. But thislucrative post be sacrificed when an opportunity offered itself, and in 1918 he joined the Calcutta University as its Palit Professor. He is the recipient of many honours such as the Honorary Doctorate in Science of the Calcutta University (1921), the Fellowship of the Royal Society, London (1924), the "Premic Matteuci" medal of Italy and the Honorary Doctorate in Natural Philosophy of the German University of Freiburg (1929) and by securing the Nobel Prize for Physics Professor C. V. Raman has justly received international recognition taking rank, as is his right now, with celebrities in the world of physical science like Rontgen, Lorentz, Madame Curie, Marconi, Einstein and others. He is the second Nobel Prize winner for Asia (the first being Dr. Rabindranath Tagore) and the first Oriental to win the prize in the field of science.

LOVE OF KNOWLEDGE

BY S. R. RAJARAM

"KNOWLEDGE comes by eyes always open and working hands; and there is no knowledge that is not power. Do valiantly, and hope confidently and wait patiently" — Jeremy Taylor.

"What a sculptor is to a piece of marble, education is to the human mind" is a saying full of meaning. The story of man's conquest of Nature is not less wonderful than the story of the subduing of those titanic forces by which this earth of ours swung at last out of the blast of primeval storms and the blaze of vulcanic fires and became the living, habitable planet The history of the human civilisation is the increasing ability to grasp the reality of things around us. We cease to be savages in accordance with our progress along this road The savage could not comprehend the universe around him and his vision was narrowed down to killing, eating and drinking. The civilised man, on the other hand views the world with a sense of its reality and spares no pains to pry into the secrets of life and solve its mysteries. The civilised man is so because he loves knowledge. Lord Kelvin once said that "when you call a thing mysterious, all that it means is that you don't understand it". To us living in the 20th century many things that were mysteries to the ancients, are no longer so and this is mainly due to the advance of knowledge.

Let us see how this burning desire for knowledge has advanced the cause of civilisation. First of all we see that the spirit of adventure and the irresistible curiosity to know what is beyond the horizon have led to the discovery of the new world by Columbus, and today the snow-clad poles have ceased to be a mystery. The world is no longer limited to us, but spreads from pole to pole and there is practically no region that is left unexplored. In geographical exploration the spirit of adventure has done wonders. The names of Columbus, Cabot, Vasco da Gama, Magellan, Cook, and others will come to our minds in this connection. More recently the spirit of scientific exploration claimed Nansen, one of the most daring of the Arctic explorers, as its heroes. So also Mikkelson and others. The most stirring story of polar exploration is that of Captain Scott. He and his companions met their death while returning from the South Pole early in 1912.

Our vision has also enlarged further with the growth of the first of sciences-Astronomy. The advent of the telescope has revealed new worlds to the ardent lover of knowledge. The cosmic cloud forming the nebulae, which in their turn giving rise in succession to the stars, binary systems, and sub-systems, has led man to gauge the origin, age and the end of the Universe. This is not all. The new vista of knowledge left him thinking that there must be a Potent Hand behind all this.

Our attention is arrested next by the great contributions made by the other sciences. Let us first consider Biology. It was here again the zest for knowledge that inspired a man like Huxley to exclaim after laborious experiments that "the protoplasm is the basis of life", and Mendel, Ramarck and Weisshman to proclaim the laws governing Heredity and Variation. The work of the older Botanists on plant life and in our own times has contributed in no small measure to unravel the mysteries of nature and thus it has added to the wealth of human knowledge. Day by day our knowledge is increasing and we are realising the truth of the statement that "knowledge is Power".

The physicists and chemists are not behind in their fervour for knowledge, nor are their contributions to the onward march of civilisation less valuable Had not the undaunted Copernicus died defying Ptolemy's geo-centric system of heavens, and were it not for Golileo who preferred death to ignorance, we do not know where the modern world would have stood in the field of knowledge. The most characteristic features of modern civilisation, like the steam-boat, the automobile, the railway, the telephone, etc. would have been impossible, but for the labours of the scientist. We have come a long way since man lived by the spoils of the chase, sheltering beneath the rocks, and hewing his rude implements of flint. The journey has cost us much; but the labours and sacrifices involved in this onward march of our civilisation have been worthwhile, for man today is infinitely more happy than the rude savages in the infancy of human civilisation. All progress is progress towards happiness and man's conquest of nature is the greatest fact of modern progress. We cannot imagine what the modern civilised man would have been, if these discoveries and inventions had not been made by scientists. Science today touches our everyday life. As Prof. Low says in his recent book "Tendencies of modern Science", science is no longer an affair of chemicals and test tubes in a laboratory. "Every discovery has to be brought into relationship with life, while apparently inexplicable phenomena, such as the custom of eating peas and cheese with a knife in certain parts of America, can be explained in the light of modern science". Prof. Low makes very great claims for modern science. We who live in the age of the wireless, aeroplanes, the printing machine, the telescope and the microscope can easily understand the truth of his statememt that even the most trivial thing in Universe can be explained by science. The beautiful story of Aladdin's Lamp is no longer a myth for us, for our modern world has seen wonders for more thrilling than those imagined by the story-writers of the past. Prof. Low says, "While science does not supply the answer to every question it certainly provides a method of thought. The attitude of the scientist is a constant application of "why and 'how? It is by this method alone that he may acquire knowledge. He is not content to know that a thing happens, but must know why and how it takes place. He has long since learned to take nothing for granted and to realise that accuracy is a purely relative term". In the light of the resources of the human intellect and the advances in knowledge and invention we are constrained to cry with

Hamlet, "What a piece of work is man! How noble in reason! How infinite in faculties"

One can write any number of pages about the wonders of modern science for the subject is vast and at the same time fascinating. Suffice it to say that from Aristotle downwards the world has seen men and women who have devoted their lives to the pursuit of knowledge. Hippocrates is regarded as the Father of medicine. William Harvey's discovery of the circulation of blood is the greatest single discovery of modern science. Pasteur propounded the science of bacteriology. Abraham Werner the great geologist and scores of other men have made great contributions to our knowledge of the earth's surface and its interior.

When we survey the vast field of knoweldge, one significant thought occurs to our minds. "We are wise but very weary" said one great writer Is this true? Has knowledge, like the forbidden apple brought into this world evil? Modern industrialism and mechanical invention have been greeted as the means by which man's life would be freed from drudgery, but man in most civilised countries is the slave to machinery today, and it sometimes looks as though the growth of machinery will eventually ruin our civilisation. The remedy for the evils of modern civilisation, however, is not the abolition of knowledge but a readjustment of human life in accordance with the advance of science, so that we may retain and develop our spiritual natures and yet welcome science as the greatest benefactor of humanity. In other words, we have to spiritualise science, and never allow all our material gains to usurp our spiritual heritage. As Tennyson wrote,

"Let knowledge grow from more to more,
But more of reverence in us dwell"

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YOUTH AND ITS IDEALS

BY R. T. RANGA REDDY (IV CLASS)

WE are living in an age of transition. In many civilised countries to day the old, traditional order has almost disappeared, and there is everywhere a wonderful revaluation of old ideas and institutions. The three countries in the modern world that illustrate the working of these tremendous changes are Russia, China and Italy. Russia today is like a giant that has awakened from a deep sleep of ages during which all her creative faculties had been paralysed. China is slowly regaining her nationhood and Italy has almost realised the dreams of her patriotic sons of the past and has been welded into a strong and self-respecting nation. Even India is pulsating with a new life and we are on the threshold of very great changes which will soon make India the spiritual mother of nations, as she was in the past. Now many of these changes have come about as a result of a new awakening among the youth of the world. This awakening among the youth is the greatest hope for the future of our civilisation. The recent world-war with its barbarities and its prostitution of science for destruction has led many of the noblest minds of the world, particularly among the younger generation, to question the reality of the old world institutions and ideas. It is not an exaggeration to say that all over the world, Youth is rebelling against authority and tradition and is trying to change radically the old order of things. Fired with noble idealism, and inspired with great hopes for the future of the human race, youth is attempting all over the world to usher among the war-wary nations, a vision of a new heaven and a new earth.

The first thing that strikes us as we look round us is the growth of a virile individualism among the youth of the world. There is a growing intolerance of authority all over the world. Tradition and authority are two of the greatest enemies of freedom and it is no wonder that modern youth has revolted against them. "Individual freedom is the life pulse of the nation, it is the heart beat of democracy". This doctrine of individual freedom is nothing new in the history of the human race. It has been held by the greatest men of all ages in all countries. Even in India the supremacy of authority is being slowly undermined, for we have realised that a blind obedience to authrity has lost us our freedom as a nation.

The first attack against authority in all countries has been directed against organised religion. The tragedy of the history of the great religions is that, beginning in the simple intincts of the human soul, they are inevitably incorporated in dogmas and creeds and fall at last out of secular hands into the hands of the prietly caste. This has happened in India. The greatest curse our country has been this rigid caste

system. Religion has been turned into a matter of rites and sacraments: the symbols have come to be regarded as idols and formal observances have been exalted above character. Therefore there is in all countries a strong movement against this blind authority of religion. In Russia religion has been thrown into the dust-bin and to be religious there is a crime. In India we are witnessing a new awakening led by the youth which seeks to overthrow the supremacy of caste. One of the greatest things that the youth all over the world has achieved is this: it has set at defiance the lifeless dogmas and observances imposed by authority and substituted in its place an ideal of life and character that has its roots within man himself. We are all seeking for a new religion of humanity, which can unite the different races of the world in one great brotherhood. The fundamental idea behind this revolt is the belief in the unity of man Shelley has expressed this ideal of a new religion in these words;

> The One remains, the many change and pass;
> Heaven's light for ever shines, earth's shadows fly.

The tragedy of organised religion is that it so often degenerates into a cowardly respect for tradition; it worships whatever things that are old; it places its faith in things that are but transitory and it forgets the eternal values of human life.

The question naturally arises; what is the youth going to do in India? Indian art, literature and religion are not the product of any particular race or community in this country. But these precious things have in most cases lost their vitality after centuries of corruption. Let us face the truth and at once admit that whatever may be the intrinsic value of our ancient culture, the modern youth in this country is slowly losing its faith in the country's past. The past holds no inspiration for us, except giving us a fruitful subject for learned controversies, The results of a slavish adherence to the traditions of the past have been suicidal. We have enslaved our women, created barriers between man and man, commercialised religion and lost our precious birth-right of national freedom. Our social morality is our greatest curse. We have a double standard of ethics-one for man and another for woman, one for the highcaste Brahmin and another for the low-caste Shudra. Fortunately for us, these things are disappearing today.

Unless we are very much mistaken, we are on the threshold of great changes in this country. It is to the young that we must look for the daring temper, the adventurous spirit, and glorious thirst for freedom which alone can recreate the lost vitality of our nation. We have to create new ideals of life and must take a new and untried way to reach a more beautiful order of life. We are not mistaken if we believe that this new outlook on life can come only from the youth, and this outlook can build a new world on the ruins of the old. I am reminded of the beautiful words in one of the novels of H. G. Wells. He says to the young;

"The world cries out now for the young to enter into possession. You have to rescue our destinies, the destinies of the world, from these stale quarrels; you have to take the world out of the hands of these worn and weary men, these old and oldish men who can learn no more"

This is a challenge to the youth of this country. It is a glorious call to a noble task that requires the finest type of men and women, and it is the privilege of the youth to give to the world from among its ranks men and women who will lead our weary race to the Promised Land of happiness, beauty, peace and freedom.

What is beauty? saith my sufferings then-I answer
    the lover and poet in my loose alexandrines;
Beauty is the highest of all these occult influences,
    the quality of appearances that thru' the sense
    wakeneth spiritual emotion in the mind of man;
And Art, as it createth new forms of beauty,
    awakeneth new ideas that advance the spirit
    in the life of reason to the wisdom of God.

—Robert Bridges in "Testament of Beauty"

B. P. WORKS, MADANAPALLE.—C. 200/31.

MY HEAVEN

BY A. HARI RAO (I Class)

WHAT pleasant thoughts, happy ideas, glorious visions and bright memories crowd into my mind, as I stand gazing at the distant blue sky with scattered bands of fleecy clouds drifting along, and presenting shapes and sights innumerable! The little worries, the petty sorrows and joys, the jealousies and misunderstandings vanish away and are lost in the void of nothingness. Who says the ways of the world are difficult? Come out for a moment and look up—anywhere you please—and open your eyes. See the thin layer of cloud, cotton-like and silvery white, thinning itself away in the vast blue expanse of the sky; or the small fragments of clouds that you see on a summer morning, snow-white, remaining motionless in the centre of the sky. At times the clouds assume fantastic shapes. We see huge masses of them sailing majestically across the sky; suddenly they break up and present weird shapes of men and beasts, of demons and monsters. When the sun is about to sink painting its path in blue and gold and we see "the incomparable pomp of eve" we sometimes see a mass of cloud, separated and isolated from the rest, remaining stationary with all its splendour of form and colour. We can never forget such sights; my sorrows vanish—troubles have I none.

Who speaks of Beauty? Has it ever occured to us to ask the meaning of the world's beauty? Why is it that Nature everywhere seems to strive after beauty? Wordsworth complained that "the world is too much with us". But it is not the world of beauty; but a world of ugliness, of strife and sorrow that is "too much with us". The ancient Greek was a worshipper of Nature; our Aryan ancestors were priests of the great goddess of Nature. When the sea rose and thundered on the shore, our Aryan ancestors saw the god of ocean roused to anger. When the sun rose in the east, flooding the earth with light, they saw the beautiful face of a lovely maid, the goddess of Dawn, or thought that the god of beauty and of light was driving his fiery chariot up the steep incline of the heavens. They erected their temples on the summits of hills overlooking a smiling

country. They lived in constant communion with the beauty of our earth and

> Found earth crammed with heaven
> And every common bush afire with God.

The world's beauty revealed in the three great canvases of earth, sea and sky, is a continuous inspiration for man to fashion his life and surroundings in harmony with nature. Any jar or discord that spoils this beauty is to be considered as a frustration of the divine plan. Really this earth of ours can be a heaven, if we strive to make it so. Wordsworth says in one of his poems that the modern man "murders to dissect". The beauty of the earth, the sky and the waters was not given for man to distort it and kill it. It was given so that man may enjoy it and realise his God. The bright, little flower of varying hues and shades, the bright plumage of birds, the song of the kokil and the cuckoo about which so much poetry has been written, the exquisite beauty of the sea-shell, the amazing delicacy of even the smallest creature that crawls on the ground, the inimitable artistry of the spider's web, the serene glory of millions of stars that twinkle in the canopy of the still midnight sky, the gorgeous splendour of the dawn in the eastern sky, the solemnity of the vast banian tree, the gorgeous green of the fields and pastures, the splendid tints and hues of the western sky as the sun sinks into rest—these and a thousand other things call continually to man to lead a life of beauty and joy, for as the poet said, "A thing of beauty is a joy for ever". Let us not scorn the words of the poet, as it is the fashion to do so in this utilitarian age, when he said:

> My heart leaps up
> When I behold a rainbow in the sky.

People who laugh at these lines, and there are many in this age, do not seem to possess any heart "to leap up" at sights like this.

Because we believe in a heaven that exists somewhere, we make this beautiful earth of ours a hell! We talk of some divine music, as the ancient philosophers wrote of the "music of the spheres". The God-given voices of every man can be trained to produce the best notes, if only we make an attempt. A great Hindu sage said that the hearty human laughter of a man had in it more music than all the harmony of the gods!

How true it is! There can be no greater discord than the discord of anger. A gentle word, a kind expression soothes the ear more than all heavenly music. Go into a crowded street in one of our towns. You see men, women and children and even the beasts—all mixed up in one motley gathering. You hear the sounds and noises of the busy quarter; there is life, life that is abundant, rich and vital. And then if you feel like yearning for heaven, there is no hope for you. We need not feed idle priests who are already overfed, in order to make sure of a place in some imaginary heaven. The 'little, nameless, unremembered acts' of kindness and charity to all God's creatures are surer passports to happiness than all ceremonies and prayers put together! We do not need angels or other imaginary creatures for models of beauty. The healthy little child running about, naked in our streets, the playful youth with hardy, well-developed muscles, the blushing village maiden who draws water from our village well—these are far more beautiful than any Greek god in bronze. The honest face of the village peasant, the sprightly innocence of a child, the solemn, care-worn face of a venerable old man, these and thousands of other erathly sights—are sources of a joy infinitely greater than the artificial excitement of our over-civilised lives.

Our yearning for an imaginary heaven is a fruitless task, if we are blind to the beauties of this wonderful earth of ours. Heaven is here where the toiling millions journey on life's rugged path; it is here where the earth spreads her myriad beauties, and where the wonderful song of human life keeps flowing in its mighty harmony. We cannot think of a greater heaven than

> "To mingle with the Universe and feel
> What I can never express, yet cannot all conceal"

This heaven is not a vague, hazy, unattainable thing such as the imaginary Elysium of the ancient Greeks, the Swarga-Loka of the Hindus and the Paradise of the Semitic races. It lies about us in all its glory and wonder and beauty.

RELIGION AND LIFE

BY SAMBASIVA REDDY (IV Class)

INDIA is the world's ancestral home of religion. Yet even in India interest in religion has greatly diminished in recent years. Economics and politics are today stronger motives than religion or philosophy. So what we need today is a call to reconstruction of religion. The History of civilisation is a story of repeated recoveries and rediscoveries of religion. It cannot be that the spiritual gifts are the monopoly of any one race or religion. The world today is as much in need of religion as at any period in human history. But the great difficulty arises out of the fact that there are many religions in the world today and it is the greatest tragedy of modern times that not one of these religions has given an adequate constructive direction to human affairs.

What is religion ? We have to interpret it in terms of life. In other words we have to regard religion as something which gives a spiritual value to life's deepest and highest aspirations, experiences and achievements. To a large majority of mankind religion means a body of customs, observances, ceremonials and formulae, in short something that is purely external. But religion in the highest sense of the term, must mean something that arises out of our inner experience. It must be an affirmation and appreciation of the fundamental verities and values of life. Religion must mean the very quintessence of life. The word " religion " originally meant " something that binds." But the word cannot have today the connotation of bondage. If religion means bondage then it becomes no better than spiritual slavery—the worst kind of slavery in the world. Religion must arise out of the freedom of our souls ; it should liberate us from the Bondage of creeds and organisations and help us to escape into a vision that uplifts, inspires and sustains our highest potentialities as human beings.

The history of all the great religions of the world illustrates a significant fact. The religion of Jesus Christ was a simple code of human love and service. As years rolled on, European Christianity became a caste religion of race superiority—a religion

of war and viole ce. We know how in Hinduism the vision of the Vedic Rshis has been trampled upon by customs, creeds and ceremo ies. The Rishis were the seers of Dharma. They embodied thir leepest spiritual experiences in truths which they put intopratice in their daily lives. But today Hinduism or what psss for it is the monopoly of a caste. The vast majority of peoplen India today barely understand the deeper significance of th Hindu Dharma. A net-work of observances and ceremonies re the only visible signs of Hinduism. To the average Hindu day his religion has no meaning. It does not hold any inspiration and does not mould, direct and regulate his outlook on le. We justify some of the most unjust of our social customs an institutions in the name of religion. Child-marriage, caste-sys m in its worst sense, observance of empty ceremonial—these re regarded as religious. Religion which ought to bind humnity in one brotherhood, tends to create barrriers between man and man. The spirit of love service, brotherhood and a aith in God are no longer to be found in our religion as it i practised today. The same phenomenon is to be found in othr countries. Religion has served the purpose of brutal perseutions, and inhuman barbarities and it has always been directd against the striving after truth Religion has been made to pepetuate ignorance and slavery and violence.

It is one of the hopeful sgns of modern times that we are beginning to recognise the baic unity of all the great world faiths. Each religion has its own mission to the world and expresses certain truths suitec to the needs of the age and the nation and the type of civilisaton which it is to permeate. The various religions are but elemeits in one plan of evolution—the divine purpose of God to educae the human race. There is a religion of humanity. In all ages, beneath the pine or the palm one unseen Presence has brooded above the chequered life of man and one spirit has indwelt that life. Let us remember the words of our sages : "The One whom the sages call by many names." The Gita has it : "On whatever road men approach me, on that road do I meet them, for all the roads are mine."

PANDIT MOTILAL

PANDIT Motilal passed away on Friday the 6th February at 6-40 A. M., at Lucknow. Punditji's death was as unexpected as it was untimely. It was only the previous day he had been removed to Lucknow from Allahabad for X-Ray treatment and it was reported that he stood the journey excellently. The news of his death immediately after this report came upon us like a thunderbolt. His demise at this time of our Country's history is a great national calamity. If at any time his wise guidance and sagacious leadership were required, it is now when the Congress Working Committee is discussing with Sir Tej Bahadur Sapru the implications of the Premier's pronouncement to see if and on what terms the Congress should offer its co-operation and participate in the further stages of the Round Table Conference. A strange fatality seems to dog the steps of our unfortunate country. Just at the time when the services of a great leader are required most, he passes away from our midst. Punditji's physical body is no longer with us but his spirit lives to inspire us, his example remains to guide us.

Pundit Motilal's life reads like the epic story of Renunciation. He offered his all at the alter of Mother India. He renounced a highly lucrative pratice at the Bar. He gave away his *Anand Bhavan* to the Indian National Congress for housing its Head Quarters. He gave up all physical comforts to which he was accustomed for years. And despite indifferent health he sought voluntary imprisonment with the other members of his family following him one after another because to him the call of the Country was irresistible.

The story resembles in all its details the Vanavas of the Pandavas. Panditji's life is the story of the sacrifice willingly made and suffering self invited because that sacrifice and that suffering meant Service to India. Pundit Motilal literally killed himself in the service of his country.

Punditji is reported to have told a Press representative a few days prior to his demise that he would fight against death and would continue to live till he sees the birth of a Free India. But Alas! Death has triumphed and Motilal is no more. Punditji during his life time was loved by his friends and respected by his enemies. He was a prince among lawyers, a giant among men, a king among his people. That was Pundit Motilal. When comes such another?

E. N. S.

THE JOY OF LIFE

BY HILDA WOOD

WHILE I was wondering what to write about for this magazine, I was looking out into a large banyan tree in which were four squirrels playing among the leaves and branches. They were so obviously enjoying life that I thought to myself : " Why should I not write about the joy of life, a precious quality that the birds, animals and nature as a whole seems to possess but which poor wretched man loses as soon as he has passed his babyhood."

I think I know why. Yesterday I was lying resting when my mind wandered to my little bull calf. He is growing up now and very soon I will have to sell him, for I cannot afford to feed him, and he giving nothing in return. I have no use for a bullock cart or a plough that he could pull and so repay his supper. And I became very sad. I pictured him running in the heat of Madras, along these dusty roads, his poor little tail twisted by cruel hands till the joints are broken, him who now is so gentle and quiet, so happy amid the sweet-smelling grass and shade-giving trees, destined for a life of misery and suffering. I very nearly wept. What could I do to save him? Nothing.

But see what had happened. The little bull was happy. He had the joy of life. I had made myself miserable. Why? The little one had no imagination. He did not cast his eye fearfully forward to that future that awaited him. He is grateful for the present. I have imagination, he has not. Is it possible then to be happy and have imagination? The poets and geniuses of all time say that this quality brings exquisite pain and unimagined happiness. My little bull in the garden cannot know the thrill of a Shelley or a Wordsworth, nor can he know the dark despair of a Byron. Yet his present happiness is perhaps less tainted than the common man's. For is it not true as Shelley says :

" Man looks before and after
And pines for what is not
Our sincerest laughter
With some pain is fraught." ?

Why, even a great saviour, such as Christ, is depicted traditionally as a man weighed down with pity for the world's wickedness, as a "man of sorrow."

But I cannot take this picture as final. Man was not born to sorrow. He has lost himself in the maze of his own mind that is all, just as I lost myself in the labyrinth of my thoughts when I woke up weeping for the future of my little bull.

> "All the world's a stage,
> And all the men and women merely players;
> They have their exits and their entrances;
> And one man in his time plays many parts."

The secret of happiness is to sit loose, as a good horseman rides his steed, then the jars are not felt. Then if the imagination runs away with us on the wrong side of happiness and tips us off into a slough of despond, we will fall lightly and get up smiling. How truly Blake said:

> "He who bends to himself a joy
> Does the winged life destroy;
> But he who kisses the joy as it flies
> Lives in eternity's sunrise."

So, if we can play the game of life as a game should be played, without thought of gain or loss, only for the joy that the exercise gives, we are sure to find that "blue bird" of happiness, as illusive as a will-o-the-whisp when sought for, but as steady as a glowing star when we adventure into life with that childlike confidence and eager zest that the heroes of our fairy book are said to have possessed.

How beautifully Tagore puts it:

"Child, how happy you are sitting in the dust, playing with a broken twig all the morning.

I smile at your play with that little bit of a broken twig.

I am busy with my accounts, adding up figures by the hour.

Perhaps you glance at me and think, 'What a stupid game to spoil your morning with!'

Child, I have forgotten the art of being absorbed in sticks and mud-pies.

I seek out costly playthings, and gather lumps of gold and silver. With whatever you find you create your glad games. I spend both my time and my strength over things I never can obtain.

In my frail canoe I struggle to cross the sea of desire, and forget that I too am playing a game."

BOOK REVIEWS

The Art of Writing : *by Quiller-Couch.*(Cambridge University Press).

Whatever Sir Quiller-Couch writes will be delicious. The Art of Writing consists of lectures delivered by him in Cambridge as long ago as 1913—14. The lectures were published in book-form first in 1916, and as Sir Quiller-Couch said, then, "they will be truer to life, and so experimentally enforce their preaching, that the art of writing is a living business." Vivaciously written, full of witty sallies, and sparkling digressions, these lectures aim at one great truth which the author is never tired of repeating, that literature being by its nature personal, the art of writing must be by its nature personal, the art of writing must be by its nature almost infinitely various. His attitude towards Literature is marked by a deep love of all that is good, beautiful and true, in the highest spirit of Greek education. It is this attitude that he brings to bear on these lectures, and as he himself defines his aims in his first lecture : "The study of English Literature may be promoted in young minds by an elder one, that their zeal may be encouraged, their tastes directed, their vision cleared, quickened, enlarged—this, I take it, no man of experience can deny." That these lectures on writing, the least communicable of all the arts, will be read with great interest by our students is our earnest hope. Dulness is far from Sir Quiller-Couch, as many who have read his brilliant essays on "Shakespeare's Workmanship" will agree, and his refreshing views on subjects such as the difference between Verse and Prose, the Practice of Writing, Lineage of English Literature, Literature in the Universities, will make a stimulating reading. One great quality which Sir Quiller-Cough brings to his task is a whole-hearted hatred of literary jargon which makes our study of literature so insipid and fruitless. In an excellent interlude he defines Jargon thus: "That infirmity of speech—that flux, that determination of words to the mouth, or to the pen—which, though it be familiar to you in parliamentary debates, in newspapers, and as the staple language of Blue Books, Committees, Official Reports, I take leave to introduce to you as prose which is not prose and under its real name of Jargon." We may add here that this Jargon is also the staple language of our class lectures on literature—which makes the whole business of literature so unreal. The Lecture "On the Capital Difficulty of Prose" is the most stimulating in the series. It is full of wise saws and modern instances and a refreshing criticism of the tendency to classify literature. "All classifying of literature intrudes 'science' upon an art, and is artificially 'scientific'; a trick of pedants, that they may make it the easier to examine you on things with which no man should have any earthly concern, as I am sure he will never have a heavenly one."

Examiners and Lecturers will tremble and blush at these frank, stimulating and refreshing lectures; but they open a new field of appreciation for all who love literature for its own sake.

— H. Sunder Rao.

Introduction to Shakespeare, his stage and plays.

1. **Shakespeare** *By John Bailey* (The English Heritage Series Longmans.) 3/6
2. **Shakespeare: The Man and his stage:** *Lamborn and Harris* (World's Manuals) Oxford.
3. **Introduction to the reading of Shakespeare:** *F. S. Boas,* ,,
4. **A Guide to the study of Shakespeare's Plays:** *Geoffrey H. Crump* (Harrap)

While there are many learned works on Shakespeare his stage and his age, and books and commentaries on his plays are innumerable, it is really refreshing to read a book like Bailey's "Shakespeare" in the English Heritage Series. It does not pretend to be scholarly or learned in any sense of the term. It is an ordinary man's appreciation of the greatest poet and playwright in English literature. Prof. Bailey's method is characteristic of the modern attitude to art. We are less concerned with discovering problems and creating philosophical and metaphysical abstractions out of peotry today than in the past We just want to discover those beauties in art which are universal and eternal. We are not very much concerned with the so-called "higher criticism" of Shakespeare today which generally means reading into the plays more than what Shakespeare put into them. We just want to enjoy his plays appreciate his poetry, and watch reverently the wonderful spectacle of human life as it unfolds itself from play to play. Prof. Bailey's object therefore is to eliminate all details regarding the dates of publication, the various editions, etc, which usually makes the study of Shakespeare so insipid in our Universities He takes us easily into the magic world of Shakespeare and we are not, even for a moment, away from the pages of Shakespeare There has been a tendency to regard Shakespeare as something of a god and this has vitiated Shakespearean criticism to a very large extent, Prof Bailey is free from all these critical obsessions, As he himself says, "The attraction of Shakespeare is so strong that it leads sometimes even to madness". He has therefore adopted throughout a sane attitude to the question. He has emphasised the universal elements in Shakespeare's art, and has insisted that Shakespeare did not deliberately embody any "attitude to life" as such in his plays. It is in this that his Universality consists At the same time Bailey admits that Shakespeare represents the spirit of the Elizabethan age. He shared its glories as well as its peculiar weakness. One defect Prof. Bailey points out; it is the absence of "a proud conscience of the master-craftsman".

Of course we may afford to ignore a defect, because to Shakespeare life was greater than art. Still no reader of Shakespeare will deny the truth of Prof. Bailey's remarks: "He put no curb on his own facility. And the result is that there are in his writings, passages, now of involved chaos, now of legal or semi-scholastic quibbles, as long drawn-out as they are tasteless, now of verbal preciosities, now of gross, dull and clownish jests." He rightly points out that in Shakespeare, many things are combined. He sees life on a limitless scale. He is English, yet universal; we are in Italy, France, Troy, Athens, Rome; in heaven and hell and fairy-land; and yet somehow in England all the while; sitting in English manors or taverns, walking in English woods and by the banks of English streams". Prof. Bailey's chapters on his plays are exquisitely written; they take us to the very secrets of the plays and without encumbering much "criticism" introduce us to the beauties of the plays.

The volumes included in the 'World's Manuals" are very delightful to read. F. S. Boas writes in a simple, readable manner on the elementary facts of Shakespearean criticism; such as the manner in which the plays were published; the chronological order of the plays, Shakespeare's theatrical workmanship; Shakespeare's sources; his handling of the sources, and the most valuable chapters are those in which he discusses Shakespeare's drawing of character and takes us through four centuries of Shakespearean criticism ending with the value of Shakespeare's plays to the modern reader. The book is beautifully illustrated and contains pictures of some of the famous actors of Shakespeare's plays like Ellen Terry, David Garrick and Mrs. Siddons. Mr. Boas' attitude to his work is clearly expressed in his closing remarks: "For when all is said it still remains true, in the words of Coleridge, that Shakespeare keeps 'in the highway of life'; he has an unfaltering eye for the true perspective and proportion of things. Soaring imagination and loyal fidelity to fact; the whirlwind of passion and inviolable law are in his work in unparalleled union".

Messrs. Lamborn and Harris have written on the historical aspect of Shakespeare's plays, and their account of the Elizabethan stage, Shakespeare's life and times, is very lucid and exceedingly interesting. A knowledge of these things is absolutely necessary in order to get a correct perspective for our study of Shakespeare; for Shakespeare's art as a dramatist was very largely conditioned by the contemporary notions of theatrical management and technique. Students who cannot read big books on the subject of the Elizabethan stage will find here a very brief and readable account of it. Besides the authors have collected all the available facts of Shakespeare's life. We are introduced in this small book to the kaleidoscopic world of Shakespeare's England out of which the great poet took those living pictures of men and women he has given in his plays. The social customs, manners,

the life of the rich, the poor, the actor,—all these pass before our eyes in a graphic manner and we get a very living picture of the age which has been described as "the best of times, the worst of times, the age of foolishness, the epoch of wisdom; the epoch of unbelief, the season of Light ; the season of darkness, the spring of hope and the winter of despair". This magnificient diversity of the age, its beauty and squalor, its creative impulses, its crude materialism—all these are touched upon. And without a proper understanding of these facts, no study of Shakespeare will be complete.

"A Guide to the Study of Shakespeare's Plays" by Mr. Geoffrey H. Crump is a valuable addition to the library of Shakespearean criticism. It is more utilitarian in its scope and gives very useful advice to students of Shakespeare in schools and colleges. It has many tables of carefully selected portions of Shakespeare's work for reading, a table of graduated courses in the study of the plays and it has a very valuable classification and chronological table of the plays. The book is written in an exceedingly readable style and contains brief introductions to the plays. The book will be very useful to students and teachers in our schools and colleges.

—*H. Sunder Rao*

Every Day Science *By L. M. Parsons* (Macmillans)

We are living in an age of science. Let none plunge into the pool of life without a sprinkling shower-bath of scientific knowledge. The Secondary Certificate Board (Madras) has happily included Elementary Science in the Syllabus of studies for the School Final Examination. However, the syllabus seems scarcely to have been coneived in the spirit of general every day science for all; it is rather a combination of courses of Physics, Chemistry, Botany, etc. The framers of the syllabus might reply by saying that the practical applications of the scientific principles is left to the individual teachers to develop. Unfortunately the poor teacher employed by a poorer school does not possess sufficient material in the shape of modern journals, uptodate books and adequate equipment. The result is that Elementary science in our schools is a hodgepodge. It does not provide any general knowledge about everyday phenomena and so fails to interest the ordinary student. Elementary science if it is to be taught in our schools, must touch everyday life. It should stimulate the student's love of knowledge, powers of observation and help him to think clearly on some of the most ordinary phenomena of daily life.

"Every Day Science" by L. M. Parsons meets all the demands of the struggling teacher and it provides a very iteresting account of things that we see every day in our lives. The book contains three separate parts .Part I deals with the first of sciences, Astronomy, and

takes the story of life up to plant kingdom, animal kingdom and then ends with geology ard physiology. Part II deals with elementary physics; Part III deals with elementary chemistry. It is perhaps the best text-book for our schools as it is very vividly written. It is one of the best introductio s to the systematic study of elementary science and provides a store of servicable knowledge. The three parts are conveniently arranged and may be studied in order in the IV, V, and VI forms.

—*B. L. Rao.*

Psycho-analysis for Norral People *By Geraldine Coster* (Oxford University Press) 2sh 6d.

This little book on big subject is a refreshing and thought-provoking exposition of a very technical and much maligned science. Though it was bitterly o posed and ridiculed by contemporary scientists, thanks to the exertion of Adlee, Jung, Kempf and others, Psycho-analysis has become n accepted department of Psychology and Therapeutics The preent volume is a popular rendering of Psycho-analysis free from confsing and puzzling terminology. The author uses only those terms wl ch are absolutely necessary for the exposition and even then she has aken care to carefully define and describe them. She describes th cardinal features of the science in a simple and lucid way and succeds in conveying to the reader the immense potentiality of the scienc in practical life. The central feature of the book is the theory of the instructive energy of the ego which normally expresses itself in the wofold directions of Power instinct and sex instinct. Obstruction f any one channel interferes the other but when both of them ar blcked by environment, a painful result ensues the subject becming either neurotic or insane, according to the intensity of the obstructin. The author does not belong to any one particular school f thouht, but draws her materials from all sources and harmonise them in one central theory pointed above. Specialists may not fird the book very instructive, for it is simply "an effort to set forth n the smplest possible way the main principles of analytical psyhology n its application not to the insane, perverted or abnormal but to the ordinary people whom we meet every day"

—*S. Rajagopalan.*

How We Behave *By A. E. Heah* (Workers Educational Outlines series) Longmans, Green & Co., 1 sh.

This is a small intoduction to the study of Psychology written in a lucid and expressive way. In the words of the author it "aims at providing the means whereby a student may help himself to obtain a view of Psychology as a living and growing whole". The question of the subject matter o psychology takes a prominent place and the author's conclusionsare that one's own consciousness as observed by

introspection and the behaviour of others as known by objective observation and experiment form the province of the science. Though he seems to define psychology as the science of mental aspects of behaviour, he does not agree with the behaviourists in their complete exclusion of introspection and consciousness. "It is a curious view ......due to a mistaken notion of what science is". Nor is he in close agreement with McDougall according to whom all behaviour is Purposive. Thus clearing the field as it were, he discusses the development of human and animal behaviour. He clearly expounds the simplest animal behaviour viz. Tropisms. (actons of the physical and chemical stimuli on the organism) and then takes us to the reflex actions which finally culminate in the more complicated instinctive actions. Even as late as in the 18th centur it was supposed that animal behaviour was fundamentally differnt from the human behaviour. But as the author points out inteligent behaviour is the product of the previous simpler types of actins. The differentia of the human behaviour when compared with that of the animal is it is more plastic and hence more adaptable to the environment. The human behaviour from a broad standpoint develops in two different directions. The first is to adjust the self to the real environment and the second is to adjust the environment to suit the self or personality. Innate and acquired traits are discussed at great length. In the "game of life", he sums up the problem of Psycholgy as that of wise living and says, "Achieve the knowledge of self and not-self which will enable us to adjust ourselves effectively to the full reality of our human environment". This section is of practical guidance and serves to emphasise the point which is often not remembered that all the sciences especially Psychology are nothing if they are not of practical use.

—*S. Rajagopalan,*

Mughal Rule in India *By S. M. Edwards and H. L. O. Garrett.*

As the joint authors themselves admit, 'of the making of books concerning the Mogul period of Indian history there is no end'. And this is partly due 'to the spell exercised upon the minds of men by the story of the Timurids of Delhi', and partly to the abundance of material available in the shape of original sources. To the student of the history of this period, the names of Bernie, Tavernier, Manucei and a host of other foreigners will be quite famiar and their accounts supplement and correct the information to be found in the chronicles written with scrupulous care to details 'by historians like Nizam-ud-din, Abul Fazal and Kafi Khan. Of secondary works on the period' Moreland's two volumes throw a food of ligh on the social and economic conditions. Sarkar's studies in Mughal India can never .. overlooked by any serious student.

The advantage of the book under review lies in the fact that it has utilised materials scattered in different volumes, and presented them in a suitable and attractive form thus enabling the reader to obtain a whole picture of the period The first five chapters of the book contributed by Mr. Garrett deal with political events, the wars and rebellions of the time receiving due attention, and showing how the fabric of the Mughal Empire was built up. There is a chapter also on the causes of the Decline of the Mughal power. In Part II, the work of Mr. Edwards we are treated to an account of the Mughal administration, economic and social features of the Mughal age and Mughal architecture and arts. As a result not only do the Grand Mughals become living, but the environment in which the ordinary man moved and lived becomes known to us.

In this short review, it is not proposed to go into details, bringing out the merits and defects of the book. But this much can be confidently said of the book, that no student of Mughal India can fail to benefit by reading it.

—P. N. Chary.

Mr. Bertrand Russell on Marriage and Happiness.

1. **"Marriage and Morals"** *By Bertrand Russell*
2. **"Conquest of Happiness."**

I do not know of any book on sex and marriage which presents the difficult problem of marriage so courageously, frankly and clearly as Mr. Bertrand Russell's "Marriage and Morals". Judge Lindsay's book on "The Revolt of the Modern Youth" when it was first published evoked a storm of anger in America; besides exciting a morbid curiosity in the minds of readers outside America regarding what some of them thought as the moral degradation of American life. Any criticism of our most cherished social, religious or political institutions is distasteful. We are today in a great day of judgment so far as our attitude to sex is concerned, and the institution of marriage is challenged today not only by those who are too weak or wayward to keep the ideal of orthodox marriage intact, but also by those who challenge the ideal itself and break the laws in a spirit of missionary zeal. Mr. Bertrand Russell does not belong to either of these categories, though the orthodox will not fail to regard him as one of their bitterest enemies of traditional morality

Briefly, Mr. Russell is against traditional morality, whether it is Pagan or Christian So he makes a new valuation of the ideals of marriage and strongly condemns the orthodox Christian or Pauline view of marriage. This view degraded sex as something sinful, or at best a safety valve for man's inherent wickedness. The result is the ideal of ascetism that runs like a curse through Christian ethics. Again this repression of a vital urge in human life has resulted in a false,

romantic glamour that surrounds woman. So Mr. Russell wants us to look at marriage not as a necessary evil and sex as a sin, but to readjust our notions of sex in such a way that marriage may add to human happiness. He mentions three factors that have reduced marriage to the level of an insipid, uncreative and barren institution. First there is religion which has always regarded marriage an irrevocable union, and made divorce difficult. Secondly there is the prevailing ignorance of sex knowledge which has reduced marriage to an uncertain adventure. Lastly the absence of "Love" in most marriages is the cause of their failure to provide mutual happiness. Mr. Bertrand Russell's views of sex-morality can be summed up in one word, "Love". According to him, the old morality is the bitterest foe of healthy sexuality, because of its insistence on ignorance of sex, and an irrational code of ascetism. It degrades woman and brutalises marriage. His conclusions may be summed up as follows:

1. Love is a primary necessity of human life; it is not a synonym for lust as it is to most moralists. He says "Love is something far more than desire for sexual intercourse." Again, "those who have never known the deep intimacy and intense companionship of happy mutual love have missed the best thing that life has to give".

2. Love being admitted as the most precious thing in life, Mr. Russell goes on to revaluate our attitude towards questions like extra-marital relation, prostitution, trial marriages, divorce, family and children. These questions have to be faced in relation to the growing emancipation of women all the world over, and the increasing advances made in science, birth-control methods, etc. Bertrand Russell is whole-heartedly for a happy monogamous union that contributes to the happiness of the father, mother, and the children; but he does not like the idea of narrow restrictions in the field of love. "Love that is free and spontaneous" he says "cannot grow in restrictions." His views on children, family and birth-control are well known.

3. He speaks of other conditions of a happy marriage, such as, the respect for the partner's individuality, the absolute sense of equality between the partners, the knowledge of each other's sexual, social and emotional needs. He supports the sexual rights of women, and the scientific methods of birth-control.

It is very difficult for us to agree with all these views. His attack against Christian ethics is no doubt difficult to answer. Abolition of sexual restrictions, which Mr. Bertrand Russell in a way advocates, does not strike us to be a good remedy for the increasing sexual unhappiness in the modern world. But his views on questions like birth-control, the propagation of healthy sexual knowledge among our young men and women cannot be challenged. He pleads eloquently for a new order of life in which taboos, ignorance, narrow ascetism,

and conjugal brutality can have no place. So far the book is a very valuable and illuminating contribution to the subject of marriage, and expresses the attitude of many a cultured and thinking man today. It is written in Mr. Russell's characteristically fine style and is full of wise observances and illuminating remarks on our present social institutions.

Mr. Bertrand Russell's other book is a more ambitious one. To present a philosophy of happiness is not an easy task. To discover the causes of unhappiness in modern times is not only not easy but infinitely less worth while. But Mr. Bertrand Russell has ably presented in this book a view of life which is fresh, creative and which is bound to increase one's enjoyment of life, though it may not make us all happy in one stroke. He admits that there is no such thing as the art of happiness; happiness depends on a combination of circumstances, some lying within man himself, his inner temperament, character, etc, and some lying entirely outside his own self. There are for example things like boredom, and envy, fatigue, and competition which in the modern world go a long way to make our lives unhappy. Some of these factors arise out of the peculair conditions of modern life, such things as competition, fatigue, boredom and excitement. They are inseparable from our civilsations. Regarding competition, Mr. Russell says, "The root of the trouble springs from too much emphasis upon competitive success as the main source of happiness". Again boredom is another factor, and this involves love of excitement. The modern age is happier in this respect. "We hear a great deal about the tedium of machine-minding, but I think the tedium of agriculture by old fashioned methods is at least as great." This is an exceedingly sensible remark and those who advocate a wholesale return to primitive methods of labour are very much mistaken if they think that thereby human happiness will increase. Of course work is a vital factor in reducing boredom in any department of human activity, and Mr. Russell is right when he says that "boredom is absence of vital activities". No healthy civilisation can ever be built on a foundation of devitalised work. Too much excitement is another evil, and in this connection the author says, "A person accustomed to too much excitement is like a person with a morbid craving for pepper who comes at last to be unable even to taste a quantity of pepper which could cause anyone else to choke". A certain amount of it is wholesome; but too much of it harmful. Mr. Russell believes that no one can be happy if he is shut out from the "rhythm of earth life". So he passionately pleads for freedom in educating children. No pleasure can be vital unless it has this element of contact with earth. Love is an excitement of this kind, and therefore sexual life without love is barren, and ends in fatigue, disgust and a sense that life is hollow. He is quite right, therefore when he says, "The special kind

of boredom from which modern urban populations suffer is intimately bound up with their separation from the life of Earth." He is also against the traditional religious psychology of sin, which according to him has been one of the greatest factors in increasing unhappiness. The imposition of taboos in eating, sex, pleasure, etc. has been the source of all unhappiness. Of course Mr. Russell does not want to throw all reasonable restrictions to the winds and to advocate a life of "Eat, drink and be merry". But the moral teaching of religion has not added to human happiness. After reading this chapter we can understand the proverbial pessimism of religious people. The Puritan moroseness is no longer a mystery, for as the author says: "Traditional morality has been unduly self-centred, and the conception of sin is part of this unwise focussing of attention upon self". Again "Happiness that is genuinely satisfying is accompained by the fullest exercise of our faculties, and the fullest realisation of the world in which we live".

He then speaks of the prevalent curse of persecution. It manifests itself in a very amusing kind of temperament. He refers to those who always whine and complain of the ingratitude of others. It is perhaps a kind of "Inferiority Complex". Now people of this tempera-ment that always think they are persecuted cause indescribable misery to themselves, besides proving a nuisance to others. According to Mr. Russell there is a simple remedy to cure this malady. He says. "We cannot expect others to think better of us than we think of them". This kind of attitude, no doubt, causes a great deal of unhappiness. Mr. Russell gives us four general maxims to get over this habit: They are:

1. Remember that your motives are not always as altruistic as they seem to yourself. 2. Don't over-estimate your merits. 3. Don't expect others to take as much interest in you as you do yourself and 4. Don't imagine that other people bear any special grudge against you and want to persecute you.

The last section of the book gives constructive suggestions to make our lives happier than we have made them so far. He gives the following as the indispensable conditions of happiness in life. Zest. Affection. Work. Family. Effort and Resignation and finally im-personal interests These conditions wisely directed can bring a vast amount of happiness in our over-worked, bored, and insipid lives. He concludes, "The happy man is the man who does not suffer from lives, either of these failures of unity, whose personality is neither divided against itself nor pitted against the world. Such a man feels himself a citizen of the universe, enjoying freely the spectacle that it offers and the joys it affords, untroubled by the thought of death because he feels himself not really separate from those who will come after him." These are wise words, and will bring a ray of hope to many men who have failed to tune their lives to the mighty harmonies of the vast and infinite rhythm of life.

A PAGE OF SMILES

The wife of a man who had enlisted in the Navy handed the pastor of a church the following note: "Petter Bowers having gone to sea, his wife desires the prayers of the congregation for his safety."

The minister glanced over it hurriedly and announced: "Petter Bowers having gone to see his wife, desires the prayers of the congregation for his safety."

* * *

The Poet had written what he considered to be the poem of his life, and he took it to the editor. The Editor took it and read it.

"Well," said the poet, "what will you give me for it?"

The Editor rose slowly and took off his coat.

"I will give you five yards start" he said.

* * *

Mathematics of a Cigarette.

"I am not much of a mathematician" said the Cigarette, "but I can *add* to a man's nervous troubles; *subtract* from his physical energy; *multiply* his aches and pains; *divide* his mental powers; take *interest* from his work, and *discount* his chances for success."

From Here and There.

Life of Caesar: A famous Roman general, the last who ever landed in Britain without being stopped at the Custom House. On returning to his Sabine farm (to fetch something) he was stabbed by Brutus, and died with the words "veni, vidi, tekel, upharism" in his throat. The jury returned a verdict of strangulation.

Life of Voltair: A Frenchman; very bitter.

Life of Schopenhauer: A German; very deep; but it was not really noticeable when he sat down.

Life of Dante: An Italian; the first to introduce the banana and the class of street organ known as "Dante's Inferno".

—*(Stephen Leacock: Literary Lapses).*

COLLEGE NOTES

BY AN ON-LOOKER

Strength of the College

The number on the rolls of the College this year is 130. The strength has gone down considerably this year. But we need not go into a panic on account of that. Various causes are operating in this country just now to make higher education less popular than what it was some years ago. One is the increase in the number of educated un-employed, and the other is a rush into the professional colleges. Besides the increasing failures in the S. S. L. C. Public Examination also account for the fall in admissions into the colleges not only here, but all over the Presidency. The student who chooses the Art course today is at a considerable disadvantage when compared with one who qualifies as an Engineer or a doctor. There is more need therefore today to make the University courses as attractive and useful as possible. Whatever may be the forces operating on higher education, a college will have its own part to play in educating the citizens of tomorrow and so long as culture is valued as an indispensable quality of a citizen, the Arts colleges will have their own share in giving that culture to the younger generation, and placing before them ideals of wider citizenship and higher service to society, ideals which only a liberal education can impart.

Changes in the Management etc.

This year has seen several changes in regard to our College administration. The Theosophical Educational Trust which was managing the College and the High School was dissolved early last year and a new Trust was created, called the Rishi Valley Trust, whose educational policy does not much differ from that of the old Trust. One of the objects of this Trust is to develop centres of free, purposeful and creative education all over India, and the Rishi Valley scheme which is being worked out, promises to be one of the most interesting of educational experiments. The Rishi Valley is a fine place 12 miles from Madanapalle, and the present college will be transferred to the Valley as soon as the buildings are

ready. One important consequence of the dissolution of the T. E. Trust has been the 'dis-affiliation' by the Rishi Valley trust of our High School. Thanks, however, to the efforts of the teachers aided by some members of the public, the High School is being continued under the management of the new Trust called the Giri Rao Theosophical Educational Trust. We are happy to write that the School originally founded by the late Mr. R. Giri Rao is receiving a large measure of sympathy from the public and the school under its new management and with its noble band of teachers has a bright future before it. We have no doubt that more and more support will be forthcoming for the school. Mr. R. Naravana Rao, B.A., L.T. who is the brother of the late Mr. R. Giri Rao is the new Headmaster, and he brings to his work a wide experience of educational matters and administration.

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The University Commission appointed by the Madras University to inspect our college and the Ceded Districts College, Anantapur, consequent upon the new Bill passed by the Madras Legislative Council separating the Chittoor and the Ceded Districts from the area of the Andhra University, has finally recommended to the Syndicate affiliation of these Colleges to the Madras University from this academic year. We are sending the last batch of students to the Examinations of the Andhra University this March.

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Mr. G. V. Subba Rao, M. A. was the acting Principal for some time during the absence of Mr. C. S. Trilokekar on leave. Mr. Subba Rao did very good work while here and his enthusiasm for educational ideals and passion for putting those ideals into practice, has been a tremendous influence for good on both the staff and the students. Mr. Subba Rao is now concentrating solely on the work of developing and building the Rishi Valley, which is to be the centre of the new Theosophical University of the future.

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We miss in our compound the genial personality of Mr. Duncan Greenlees, M. A. (Oxon) who was on the staff of the High School for some years. He left us early this year to take

up work in a High School in distant Gorakhpur. His presence with us was a source of great inspiration and we are the poorer for the loss of a loyal comrade and an indefatigable worker.

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Examination Results

Our results in the Intermediate examinations were rather disappointing. We have, however secured very good results in the B. A. Degree Examination the percentage being nearly 70.

College Literary and Debating Society

We regret that we cannot show a big record of meetings. We had three meetings of the College Literary and Debtaing Society during the half year now drawing to a ,close. The first was a business meeting. The various office-bearers of the Society were elected. Pro. D. Gurumurthy was elected as the President and Mr. Y. Ramachandrayya (IV Class) as the Secretary. The second meeting was very largely attended and great enthusiasm prevailed. The subject discussed was whether students should take part in politics. The motion that they should take part in politics was carried by an overwhelming majority. The third meeting was, held towards the close of the last term, and the subject of debate was "Passive Resistance vs Force". Many good speeches were made on the occasion and the House voted for force! The Society has a bright future, provided its affairs are conducted in a spirit of mutual good will and enthusiasm. We hope that more and more students will come forward to make the meetings lively and interesting. We particularly wish that the lady students of the college will take more interest in the affairs of the Literary and Debating Society.

Class Literary Societies

This year we tried a new experiment and we are glad it has been a great success. Each class has its own literary and debating society and these class societies meet every fort-night to discuss subjects of a literary and general interest. We can but refer to only a few meetings here. The Junior Intermediate Class had two meetings and very interesting subjects were discussed. They were " Wordsworth's poetry " and "The art of reading books ". The Senior Intermediate Class also held a few meetings, and one of the subjects discussed was "Knowledge is Power". The

B.A. Classes met once during the second term and had an interesting and stimulating discussion on "Second Chambers".

The Association has a creditable record of meetings, talks, and discussions on a variety of subjects dealing with the subject

The Philosophical Association

of psychology, metaphysics and ethics. The subjects discussed were Dreams, What is Philosophy, Sleep and Psycho-analysis. The Association meets every week.

The Theosophical College Indian Citizenship Assocition is as its energetic Secretary Prof. E. N. Subrahmanyam put it,

T. C. I. C. Association

"the life-centre of college activities". Prof. Subrahmanyam has every reason to be proud of the varied activities of the Association. We have an ambitious programme of lectures, talks and discussions on a variety of subjects of general interest. We give below the programme of lectures :

University Ideal	Principal speaker:	Prof. K. T. Krishnaswami, M.A.
Types of Universities	,,	,, E. N. Subrahmanyam, M.A., B.L.
Ancient Indian Universities	,,	,, ,, ,,
University Organisation	,,	,, D. Gurumurthy, M.A.
University Training Corps	,,	,, M. Natesan, M.A.
University Activities	,,	,, H. Sunder Rao, M.A.
Psycho-analysis	,,	,, S. Rajagopalan, M.A.
League of Nations	,,	,, E. N. Subrahmanyam, M.A., B.L.
Indian Constitutional Problems	,,	,, P. N. Chary, M.A., L.T.
Indian Currency & Exchange	,,	,, S Srinivas, M.A., L.T., Dip. Econ
Science and Daily life	,,	,, B. Rama Rao, B. Sc., L.T.
Science Hundred years hence	,,	,, B. Lakshman Rao, M. Sc.
Relativity	,,	,, S. K. Ramaswamy, M.A., L.T.
Hypnotism	,,	,, M. Natesan, M.A.

The meetings of the Association are held every week. Prof. Krishnaswamy gave the inaugural address on "University

Ideals" early this year, and Prof. Rajagopalan followed it up with a remarkably vivid presentation of the interesting subject of psycho-analysis. The subject created such enthusiasm, that the meeting had to be adjourned and besides a question and answer meeting had to be arranged. Prof. Rama Rao's fine lecture on Every Day Science was very greatly appreciated.

Student Counselling

A very useful programme of what is known in some American Universities as "Student Counselling" has been set on foot by Principal Trilokekar. The object of this counselling is to make a thorough study of each individual student and give him proper guidance in all matters relating to his curricular and extra-curricular activities. We have great hopes that the activity of the College will prove one of its most interesting and useful achievements.

Sports

Games and athletics continue to be popular. The College Athletic Association has been reorganised this year and enjoys a large degree of "self-government." The result has been highly satisfactory. Prof. Natesan is the President of the Association, and C. Sanjiva Reddy (IV Class) has been elected the General Secretary. We were unfortunate in losing this year the Ceded Districts Hockey Cup which had never left our hands. Our boys played the tournament at Anantapur against the Kurnool team and lost by a narrow margin of one goal. Tennis and Hockey are very popular, and cricket and football have some stalwart exponents as well. The Krishnamurthi Nityananda Tennis Tournament which is an annual event in the College attracted many entries and we witnessed some good matches. We are happy to record that Mr. M. V. N. Gupta won the singles, and in the doubles the medals were won by Srinivasa Reddy and his partner K. V. Narayana Reddy both of the High School.

Social life in the College

Besides innumerable tea-parties and socials organised by individual classes the College celebrated this year as usual, Dr. Besant's Birth-Day on October 1 and the Teachers' Day in honour of Dr. Arundale on December 1. Principal Trilokekar's 55th Birth-Day was also celebrated as usual with great enthusiasm on January 7. These occasions afford ample opportunities for

the staff, present and past students to come together. The Variety entertainment given by the staff and students on the Teachers' Day was a magnificient success. The items are too numerous to be mentioned; but the most important of them, were the two dramas, the one staged by the teachers, and the other a drama in Telugu "Madhu Seva" staged by the boys. The actors acquitted themselves very ably. A. S. Venkat Rao (IV Class) was a great success with his part, and Krishna, murthy (II Class) as Kasturi looked irresistible on the stage and was highly successful in rendering a difficult character. R. Srinivasa Rao (III Class) made a charming heroine, and L. Lakshminarasimha (II Class) in the role of a comedian set the house into roars of laughter. Tagore's "Sacrifice" was staged on January 7 by the College Dramatic Association and it was fairly successful.

Hostel and Residence

The College Hostel has been thoroughly reorganised under its new management and the long-standing grievances of the members have been removed. The Hostel was never managed by the members so far, and for many years it was under a kind of "autocracy", sometimes benevolent, but more often otherwise. Prof. Subrahmanyam is the Superintendent of the Hostel and there is no end to feasts, socials; 'special', etc. A new feature has been added to the activities of the Hostel; it is the weekly social which affords infinite enjoyment to members. There is plenty of fun, goodwill, and good humour prevailing in the residence, and we hope to keep it up.

College Library and Reading Room.

The Library and Reading Room have been thoroughly reorganised this year. The Library has been divided into two sections, one lending and the other Reference. Books of reference, carefully chosen by the different departments, have been placed in open-access shelves in the main Hall. The Reading Room has been made more attractive by the additon of journals and periodicals and the College now subscribes for nearly 35 periodicals, both Indian and foreign. We give below a list of periodicals. The accomodation available is not enough, and the library staff is inadequate for proper supervision of

library work. We hope to effect further improvements next year in the matter of more uptodate cataloguing of books and more efficient distribution of books. The Library, is very popular, and the average number of consulations in the reference section per day is nearly 35 and borrowings nearly 20. This is highly satisfactory, considering the numbers on our rolls. The Library is kept open every morning from 7-30 A.M. to 11-45 A.M. and from 1-30 P.M. to 4-30 P.M. It is kept open on Saturdays and Sundays in the mornings.

List of Periodicals.

Hindu Daily.
Andhra Patrika Daily.
New India.
Trilinga.
Kalanilayam.
Deena Bandhu.
Modern Review.
Illustrated London News.
Triveni.
Tit-Bits.
Science.
Science and Invention.
Physical Culture.
Current History.
Psyche.
International Journal of Ethics.
American Psychological Review.
Mentor.
Nature.
Discovery.
Scientific American.
School Science & Mathematics.
Mathematical Gazette.
Journal of Indian Economics.
Economica.
Indian Historical Quarterly.
Journal of Indian History.
Political Science Quarterly.
New Statesman.
Times Illustrated Weekly (London).
Times Literary Supplement.
Bharati (monthly).
Griha Lakshmi ,,
Good Health.

H. SUNDER RAO, *Hon. Librarian.*

Our Exchanges.

We acknowledge with thanks the following magazines :—

Madras Christian College Magazine.
Union Noble College Leader, Masulipatam.
Findlay College Magazine, Mannargudi.
Maharaja's College Magazine, Ernakulam.
American College Magazine, Madura.
The Scholar, Palghat.

Note:-U. Ananthayya's article on "Psycho-analysis" was not received in time to be printed in this issue. (*Editor.*)

O, Youth whose hope is high,
Who dost to Truth aspire,
Whether thou live or die,
O, look not back nor tire.

Thou that art bold to fly
Through tempest, flood and fire,
Nor dost not shrink to try
Thy heart in torments dire:

If thou canst Death defy,
If thy Faith is entire,
Press on forward, for thine eye
Shall see thy heart's desire.

Beauty and love are nigh,
And with their deathless quire
Soon shall thine eager cry
Be numbered and expire.

—ROBERT BRIDGES.

THE RIDDLE.

I stood beneath the Night's unmoved expanse,
And lo! upon the fallow darkness sown
Like seeds, the stars; or bright confetti thrown
Upon the dusty floor of Circumstance;
Or hung, a jewelled necklace, to enhance
The throat of Night! And to some Power unknown
I cried, "Is man then but a mote alone
Caught in a falling rain-drop-dust of Chance?"
Yet in the desert of this sterile Space
A living moss upon a crumbling clod
Tenacious finds a brief abiding-place:
An Insignificance that has its dream-
A mind that reads a meaning in the scheme-
A heart whose craving dares create a God!

—ARTHUR H. ADAMS.